The Builder

AN

ILLUSTRATED WEEKLY MAGAZINE

FOR THE

ARCHITECT, ENGINEER, ARCHÆOLOGIST, CONSTRUCTOR, SANITARY REFORMER, AND ART-LOVER.

CONDUCTED BY

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"Every man's proper mansion-house, and home, being the theater of his hospitality, the seate of selfe-fruition, the comfortablest part of his own life, the noblest of his sonne's inheritance, a kinde of private princedome, nay, to the possessors thereof, an epitome of the whole world, may well deserve, by these attributes, according to the degree of the master, to be decently and delightfully adorned."

"Architecture can want no commendation, where there are noble men, or noble mindes."—Sir Henry Wotton.

"Our English word To Build is the Anglo-Saxon Bylðan, to confirm, to establish, to make firm and sure and fast, to consolidate, to strengthen; and is applicable to all other things as well as to dwelling-places."—Diversions of Purley.

"Art shows us man as he can by no other means be made known. Art gives us 'nobler loves and nobler cares,'—furnishing objects by the contemplation of which we are taught and exalted,—and so are ultimately led to seek beauty in its highest form, which is Goodness."

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English Architecture: 1884.

DURING the past few days many of us having been wishing each other, individually, "A happy New-Year," a wish which we beg hereby to offer collectively to our readers, subscribers, and coadjutors at home and abroad, to all who are interested in the various subjects, practical and artistic, of which it is our duty as well as our pleasure to treat. More especially are our good wishes offered to the members of the profession of architecture, in whose welfare we are bound to feel interested, and from whom we hope for the continuance of a reciprocal feeling of interest and goodwill. And while expressing this feeling in regard to the profession at large, as those for whom, in the common phrase of a bidding prayer on the "Founders' Day" of some institutions, "more especially are we bound to pray," we may naturally extend our view further, looking past the architects to architecture herself, the noble artistic handmaiden of civilised life, and consider what are her prospects and conditions at present, and with what reasonable hopes we may wish to English architecture, also, a happy new-year, and many succeeding and prosperous anniversaries.

The most favourable point in regard to the architectural work which is rising up around us at the moment, may be said to be this, that it leaves room for a very free choice in regard to the direction in which it may be further worked out. The satisfaction to be derived from this consideration relates, however, rather to the future than to the present. An impartial critical review of current English architecture (if we may use the expression) shows a state of the art of architectural design in which those qualities of logical and harmonious treatment of every portion of a design in reference to a leading idea, the observance of which constitutes *style*, are almost entirely abrogated, and the object of architects seems to be to throw together, pell-mell, details from various styles, so as to leave it difficult to assign any definition to the result, unless we accept as such the title rather happily suggested the other day by a well-known member of the profession,—the "They-all-do-it" style. Now, we are by no means complaining of the fact, *per se*, that it should be difficult any longer to describe a building simply as "Gothic" or "Classic"; on the contrary, we have always upheld that modern architecture should be, and might be, something more than a mere repetition, however ably carried out, of this or that style of the past. As long as that system of mere repetition was kept up, of course it was necessary that architectural criticism should accept the fact to a certain extent. Granting the conditions, there might be good modern Gothic and bad modern Gothic; and there might here and there be examples of works in which, though not a detail could be found which was not in the books, there was distinct originality in general design and combination. So in regard to the *pot-pourri* fashion (for we have declined to call it "style") of the present moment; there is *pot-pourri* which is merely weak and shambling, and there is *pot-pourri*, such as Mr. Norman Shaw's at the foot of St. James's-street, which is really picturesque and fascinating in general treatment, and only makes us regret that some of the details are so little worthy of the main character of the building. But the kind of originality which is aimed at by this composite manner is a false, not a true, originality. There is no formative spirit in it. It is simply a throwing together of incongruous details in a thoughtless and illogical manner quite at variance with anything which is in the true interest of the word "design." And the worst of it is that, in order to render the union possible at all, the baser and weaker forms of past architecture have to be selected. Pure Gothic detail will not assimilate with pure Classic detail, by any ingenuity of derangement. But details of very poor and debased Classic type, out of which the true artistic spirit of Classicism has departed, may be mixed up with details of poor and debased Gothic, in which the true Gothic spirit of design has been weakened and emasculated. By getting rid, in short, of the best and strongest elements of both styles, and selecting only the weaker and more debased, you may manage to mix the two in a passable sort of manner; for, as all the details together are bad, there is at least that sort of unity between them, whatever that may be worth.

This is what a great deal of recent architecture in England, and in London especially, consists of; and however its deficiencies may be carried off by excellent workmanship, of which there has been a great deal, especially the introduction of very superior brickwork (which we admit to be a very suitable material for London street architecture), it is a mere fashion, requiring little or no thought to carry it out, and in reality appealing, like the Gothic revival, to a sentiment or association in relation to a past period, not to any intrinsic principle of architectural design. Let it be granted that the brick house, in the prevalent manner, is a welcome enough change from stucco,—that is but a negative

praise. The positive result is that, with all the money expended on these brick buildings, which represent a by no means economical form of architecture, we are not only losing the sense of style, but of architectural dignity also. This is lamentably apparent, in some cases, where the Queen Anne fashion has developed itself in the form of churches and other large buildings, in which its deficiency in breadth and dignity is felt far more than in the case of private houses. But even in these latter, piquancy of detail and little picturesque oddities of construction, which give a quality of "unexpectedness" to a building, and which are found in the best examples, do not, to our thinking, atone for the lack of that architectectural dignity which should belong even to a street house of the first class. We may illustrate the point by reference to the two views of modern Berlin street architecture which are engraved in the present number. We do not say that they represent a style of architecture with which we are entirely in sympathy. They verge a little too much on the sort of architecture which is commonly spoken of as "handsome." But they do represent a dignity and largeness of manner which appears to us to be a better type of what the leading street houses of a great capital should be, than the buildings with nondescript assortment of detail, and piquant fancies of different kinds, which we see put up in our own streets. Modern civilised life is more truly represented by dignity and finish than by piquancy of architectural exteriors; and certainly architecture is better represented by buildings which show logical unity of method and treatment, even if not of the highest type, than by a *pot-pourri* of incongruous details swept together from the leavings of decayed styles, with no unity of method to combine them.

The most satisfactory consideration in reference to English architecture, as we observed, is that it seems really to be just now in a somewhat untrammelled condition, not committed to anything in particular, and that there is room and suggestion for the endeavour to work out some new forms in a better and more considerate manner than is being generally attempted at present. One thing is, however, quite certain: that nothing of this kind can be done without thought, and without bestowing more consideration on the working out of design, and less on mere draughtsmanship, than is done at present. Instead of throwing together details borrowed from various sources, let our architectural designers endeavour to refine upon these elements of detail, using them as suggestions to be worked into better shape, and to be harmonised into a logical and congruous style; and then something may be evolved out of the present mixture of heterogeneous elements which has been too hastily accepted as representing the architectural tastes and inclinations of the day.

It has often been suggested of late years that if anything like novelty and originality of style can be achieved, it is most likely to be done by the fusion of Gothic and Classic elements. Something definite in this direction seems to be represented in Mr. Waterhouse's building for the Technical College of London, of which we publish an illustration. This, like the more fashionable manner of the day, can hardly be called either Gothic or Classic; but the union of the two elements is carried out in a very different manner from that adopted by the Queen-Annists. The symmetrical balance of the design recalls Classic precedent. Some of the details verge more on Classic than Gothic form; but the building exhibits a certain force and effectiveness in the mouldings and other details which is so far Gothic in feeling and effect, that it is suited to our climate, which the types of Classic moulding and detail are not, except under unusually favourable circumstances of weather and atmosphere. The architecture is simple and unelaborate, but that is in accordance with the objects and nature of the building; its architectural character is that of practical common-sense; and herein we may point to it as a very favourable example of English architecture of the day, which, without pretending to great artistic effect, is simple, broad, and unpretending in style, and free from any suspicion of oddity or tricks of effect. This, of course, is not all that we can demand from architecture on a large scale; but there is a time to be rich and decorative in architecture, and a time to refrain from too much adornment or display; and the Technical Schools building, considering its object and uses, hits the mean very happily, and is an example of the architectural common-sense and propriety which we should wish to see characterising modern English architecture in its every-day aspect.

Having passed beyond the architects to speak of architecture generally, we may for a moment revert to the professional side of the subject, and consider whether there is anything for special observation in relation to the present position of the profession. We fear this cannot be regarded as satisfactory altogether; but at the same time the causes for dissatisfaction are in some sense more apparent than real. It is impossible to blink the fact that the architectural profession is not much in favour at present, so far as we may regard the public press as the organ of public opinion. How far does this journalistic criticism represent educated public opinion? And so far as it does, how far is that opinion justified? As to the first part of the question, our belief is that there is hardly such a thing at all in England as educated public opinion about architecture. It is a subject about which the public in general, to invert an ordinary form of expression, care little and know less. Consequently, they are very much dragged in the wake of newspaper opinions, which in a general way are probably, on this class of subjects, of even less value. It may be doubted whether there is any European country with a daily press so ill-informed as ours about most matters connected with architectural art and architectural practice, and so ready, in spite of that want of information, to pronounce sweeping criticisms, sometimes ignorant, sometimes spiteful; often both. The sort of irregular guerilla warfare carried on against architects in the press at present appears, however, to be only one development of a common weakness of English social character. From time to time there comes over English society a desire to have something or somebody to abuse. This spirit holds "movable feasts," and at present it has fastened, like a sort of vampire, on the architect. When a leader-writer is short of a subject, he abuses architects. It has become a fashion to do so, and he is sure of a certain amount of answering sympathy from readers who know even less about the subject, if that be possible, than himself. Apart from that, there are in some quarters special personal influences at work, the existence of which is perfectly well known, and which ought to render architects, if they consulted their own dignity, much more indifferent to the kind of libel frequently directed against them than they sometimes appear to be. To answer such attacks appears to us to be not only derogatory, but inexpedient, as an interference with a form of amusement which cannot in the long run discredit any but the persons who indulge in it, and the editors who are careless or ill-informed enough to countenance it. Referring to one special case of recent occurrence, we doubt very much whether the official representative body of the profession acted wisely in replying formally by letter to an attack of this kind. To our thinking they paid the "society" journal which inserted the libel far too high a compliment in noticing it. No person of sense would ever have believed such statements upon such authority.

If we come from the moral to the architectural side of the subject we cannot but feel that in so far as the architectural profession falls short of what it should accomplish, the responsibility for this must, to some extent, be shared by the public, who are its employers. The English public do not know what they want in architecture, and they will never be satisfied till they get it. A few years ago they all wanted Gothic buildings, and put themselves into the hands of clerics, and if the Gothic detail was right they never cared for anything else; indeed, a church architect who had talked about warming and ventilation would have been scouted, as probably unsound. Now, under the influence of a sort of sanitary mania, the public all want patent drainage and ventilation, and profess to despise everything else, and lose sight even of the idea that architecture is an art. Our opinion has always been that the English architectural profession has leaned, during the last generation, too exclusively towards the artistic and what may be called the sentiment side of their profession, though there have always been brilliant and notable exceptions to this. There is a great improvement in regard to this now, far more than the public and their self-constituted instructors are aware of; the danger seems to us to be now that the artistic side of the profession should be forgotten, and that architects, who, like other persons, "must please to live," should be required to become mere planners, drainers, and ventilators. We see indications of this sort of spirit in the denunciations which are made every now and then in the House of Commons against any expenditure on architectural effect or architectural style; a feeling which is absolutely contrary to that which has always pervaded great states in great periods of their history. If we have forgotten to care for architectural beauty in our streets, we have dropped, at all events, one of the tastes which has always hitherto been a concomitant of the highest civilisation and of true national greatness. *Absit omen!*

THE THAMES COMMUNICATION QUESTION.

AMONG the Bills deposited in accordance with Standing Orders, and of which we gave some particulars in a recent number (vol. xlv., p. 874), which are now undergoing, or speedily to undergo, official dissection, few are likely to arouse more attention, or to arouse greater opposition of opinion in the ensuing session, than those connected with the question of further communication across the Thames. It is not to the credit of our methods of carrying out public works that there should be so wide a difference of opinion as still exists on the subject. For wide difference of opinion on such a practical subject implies the prevalence of ignorance. The points necessary to bring forward in order to let such a question settle itself, and appear in its own form to the public, whether as a magnificent and beneficent architectural scheme, a wise compromise between opposing interests, a well-meant blunder, or a palpable job, are easy to find. It is not for a moment to be supposed that it is impossible, or even very difficult, to arrive at a conclusion as between these different views. How such a conclusion would be arrived at in almost any other European country, we will presently remind our readers; but let us first inquire how these projects are treated among ourselves. There are various bodies that have interest in, or control over, the Thames and its navigation. To the Thames London owes its birth, its wealth, and its character as, to some extent, the commercial metropolis of the world. Thus the Corporation of London has, and always has had, a voice as to any proposed interference with the river, as far as a free sea passage downwards from directly below London Bridge, is concerned. Then the Conservators of the Thames are an important body, constituted by Act of Parliament, exerting defined powers, and under whose recent management a marked and steady improvement in the tidal flow and navigable character of the river has taken place, and is still in progress. The Metropolitan Board of Works, however they may have extended their action beyond the limits originally contemplated, have also had much to do with the Thames. They have provided London with a noble system of river walling over a portion of the banks of the river; and they have successfully undertaken the task of freeing, and to some extent rebuilding, the bridges within their district. Each of these bodies has its rights, its powers, its duties, and also, unfortunately, its views. The divergence of these views is such as to prove that at least two out

of the three bodies have not arrived at a full appreciation of the elements of the problem which they propose to solve.

Of the controlling features of the case one or two only can be mentioned as universally acknowledged. That there is a contrariety between certain requirements is one of these. The need (if such there be) of the littoral districts east of London Bridge to have a direct means of communication with one another, is a need which clashes with the more ancient and important need of maintaining the river channel, not only as practically navigable, but as protected against any avoidable impediment, from the Nore to the Upper Pool. Thus while, in order to facilitate or to create a land traffic from the northern to the southern bank of the Thames, the erection of a series of low-level bridges of uninterrupted roadway would unquestionably be the readiest method, the adoption of such an expedient would have the effect of moving down the Port of London to the seaward of the easternmost of such bridges. Therefore by common, if not by universal, assent, that method of crossing the Thames is out of the question. Then come the compromises; of either one or more lofty bridges, spanning the river at such a height as to allow of the uninterrupted passage of the craft, at all times of tide; of subterranean passage; and of a low-level bridge with one or more archways or channels made so as to open and to close, for the alternate accommodation of both river and roadway traffic. Of these methods, the two first are advocated by the Metropolitan Board of Works and their Engineer, the third by the City Architect. The advantages or disadvantages of each are as follows. A high-level bridge, which, in addition to being a magnificent architectural feature, would be unobjectionable (or nearly so) as regarded navigation, must have the surface of its roadway something like 130 ft. above the low-water level of the Thames. It is exceedingly questionable whether any traffic of an amount sufficient to justify, or, indeed, to excuse, the outlay requisite, would climb to this height, in order to use the bridge. For a tunnel, on the other hand, a descent of about half the height, or to some 70 ft. below low-water level, might be enough, but that would partly depend on the state of the bed of the river at the point selected for crossing. And then it has to be remembered that the general level of the streets is above, not only low-water, but high-water, level; so that the choice may, perhaps, be reduced to that between an ascent or a descent of 100 ft. in either case. It has to be shown whether any traffic would be created by such a facility; and it must be admitted that the experience of Southwark Bridge is adverse to that hypothesis.

With regard to the low-level bridge with openings, it would be of the nature of a compromise between the interruption of land and of water traffic. There can be no doubt that it would seriously interfere with the free navigation of the Thames, the passage up and down which would be reduced to a fourth or a fifth of its present width, and would be rendered intermittent instead of uninterrupted; and the land traffic would also be intermittent. Whether the moveable spaces were made to open at stated intervals, or on the arrival of a vessel at the bridge, would, perhaps, throw the balance of inconvenience on either the land or the water traffic; but, roughly speaking, each would suffer a material check. When the expense of a bridge is considered it will, probably, be found that while a low-level bridge would cost somewhat less in structure, and very much less in approaches, than a high-level bridge, it would run far more risk of great cost in foundations, which incur that portion of the cost which it is most difficult accurately to forecast. And when we remember the interference that the piers alone, even if each span were made to open, would cause to both flow and trade of the river, and when the problematical character of the land traffic is borne in mind, it hardly seems as if the opening low-level bridge can have any great advantage over either of the expedients before discussed. The high-level bridge or the tunnel might prove to involve heavy outlay for no adequate result; the low-level swing bridge, at, perhaps, not a very much lower cost, would cause some impediment to navigation, while its services to land traffic would be more than problematical. A bridge which you may at any moment find stopped, just when you want it, is no bridge at all.

Do we argue, then, it may be asked, that nothing is to be done, and that no communication is possible across the river without causing more mischief than advantage? By no means. What we do say is, that it is not just to London that a question of this kind should be allowed to remain as a matter of opinion, or that a snap victory should be caught by the advocates of one, or the other, or neither project. How would such a matter be dealt with in Italy, the home of modern architecture,—hydraulic as well as palatial? How, in those low-lying countries which know, far better than we do ourselves, the value of water-ways to the sea? In every Continental state with which we are acquainted the procedure would be the same. Plans, indeed, might be invited, but not plans from the engineers of public authorities, prepared to do all within their power for the adoption of their own plans, rather than for the true scientific solution of the physical and social problem involved. An architect or engineer, or, perhaps, a commission of three engineers (in the case of an engineering work), would be nominated by the minister of public works to study the case, and to submit an exhaustive report. Furnished with such a report, the department of public works is on *terra firma*. Then, perhaps, it will offer to receive suggestions, or even to decide on supporting the proposals of any enterprising individual or society to carry out certain work on certain terms. For the vague and capricious control of whoever might happen to be at the head of the department of public works, is thus substituted a competent knowledge of all the elements of the problem to be solved, as well as of the modes proposed for the solution, and of their effect.

We are not now concerned to recommend the exact way in which this plan should be applied in England. Our usual modes of arriving at such an independent judgment are either Royal Commissions or Parliamentary Committees. Different parties, armed at all points as best they can be armed, contend before either Commission or Committee. The skill of practised barristers is retained by the advocates of one scheme, to confound the witnesses of their opponents. In the case of a committee, the advocates are found among the judges; that is to say, the fullest play is given, without reproach, to the individual interests or proclivities of members of the Committee. It is not truth for which all strive, but victory for which each strives. Probably in this particular case, if a joint committee were appointed, consisting of one member for the Corporation of London, one for the Conservators of the Thames, one for the Metropolitan Board, and perhaps one for the Trinity House, or some representative of the shipping interest, and one for the Board of Trade; and if such a committee had before them such a report as we suggest, daylight would be thrown on a very obscure question.

An element of the report must be the nature of the demand for a crossing. The need has as yet been taken for granted, and some witnesses of weight have denied its existence. It does not appear to us to be absolutely proved by the condition of existing traffic; but we cannot quite accept the view that a new line of communication is not to be made until the demand for it in the present is absolutely proved by facts, if there is reasonable cause to think that it will prove a boon in the future. That more direct communication between the two divisions of London eastward of London Bridge would be a benefit to the inhabitants of both banks there may be little or no doubt. The question is, "Do we want more bridges?" In relation to this it appears to us that most inadequate attention has been given to the alternative of constructing a large and commodious steam ferry service, or more than one, east of London Bridge. To those who know what an immense daily traffic is regularly and conveniently carried on between Liverpool and Birkenhead by the continuous succession of large ferry-boats, it must seem extraordinary that the feasibility of meeting the difficulty in the same way on the Thames should be so little thought of. The fact that a tunnel is now being made under the Mersey does not affect the question; that is for railway purposes only. The Thames is not nearly so wide as the Mersey at the respective points where communication is required, nor so much exposed to the effects of storms, nor is its tidal flow as rapid as that of the Mersey at spring tides. Passengers and goods can be conveyed between Liverpool and Birkenhead every ten minutes during the greater part of the twenty-four hours. Why cannot the same thing be done on the Thames? Why talk of a high-level bridge to which a steep ascent must be made, or a low-level one which will partially block both river and land traffic, and be practically valueless as a bridge, when for one-tenth the cost (or even less) a service of specially constructed ferry-boats could be started to ply every five or ten minutes,—a plan which for land traffic would be almost as good and as constant a communication as a bridge, and would impose no hindrance on the river traffic? We doubt if there is any better reason against it than that it has never been properly tried, and that there is a kind of local conservatism in the mind of the typical Londoner which inclines him to think that nothing which has not a London precedent can be right. We have always gone across the Thames on bridges, and it is the accepted way; we have never had a first-class ferry-service across, and so it is not to be thought of. We can only say that at least a year's trial ought to be given to a first-class ferry,—with boats very different, be it understood, from the regulation Thames steamboat; boats of large deck-space and special construction; and if this experiment is not adequately made, before the construction of fixed crossings, every form of which has been shown to be open to grave objection, the neglect of it will imply, to our mind, a want of the most ordinary common-sense, on the part of those who may be ultimately responsible for the manner of dealing with the problem.

"SIR JOSHUA" AT THE GROSVENOR GALLERY.

THE Directors of the Grosvenor Gallery (for under this official style Mr. Comyns Carr and Mr. C. E. Hallé seem now to share with Sir Coutts Lindsay some of the responsibility and credit attaching to the Exhibition) have earned a new title to public gratitude for having brought together so large a representative collection of the works of the greatest of English portrait-painters, for such Reynolds must be admitted to be. Some readers will perhaps be surprised that we should even hint that there could be a question in the matter. There are, however, qualities to be found in the finest examples of Gainsborough, if we compare individual works of either artist, which might leave it doubtful whether Richard Wilson's brusquely expressed opinion, given, certainly, under some provocation, was not to be justified. There are special Gainsboroughs exhibiting a power and vivacity of characterisation which is not often equalled, certainly never surpassed, by Reynolds. Gainsborough, too, painted animals better; the dogs which accompany so many of his figures are often superior to any animals of Reynolds's, and Gainsborough certainly could hardly have been guilty of such a beast as the wooden tiger in Reynolds's "Circe" portrait, painted, as the annotator of the catalogue (Mr. Stephens) observes, "evidently from a stuffed skin." But when we compare Reynolds with Gainsborough *en masse*, he vindicates his claim to the superior position generally accorded to him, by his variety in the treatment of his subject, by a dignity which never forsakes him, and which in some of his finest works rises almost to a monumental grandeur of character, and by his

splendid and refined feeling in colour, in cases where the hands of time and the cleaner have spared us this quality in anything like its original beauty. There is a pleasure other than artistic, too, in looking through the collection; a pleasure, historical or biographical, in contemplating so many likenesses of persons well known in our social or political annals; a pleasure social in the feeling of being thrown in the company of so many charming women and children, and occasionally eminent men, once the lights of the English society of their day; the women and children predominating, however, and almost all marked by a superiority of manner and appearance which makes us feel that we are in good company with them, not less than with their accomplished portrayer, about whom Johnson left on record that beautiful and evidently sincere compliment, that Reynolds was "the most invulnerable man" he had ever known, for he was the one whom you would find it most difficult to say anything against if you wished to attack him; a sentence we were pleased to find quoted in the catalogue notes.

Some talk had been heard, when the project of the exhibition was the subject of talk, as to arranging the works chronologically. The attempt has not been made, probably because the consideration of effective arrangement of the paintings predominated. We very much regret this, for though the general appearance of the room would not have been so symmetrical and balanced, the educational advantage of a chronological arrangement which the eye can apprehend at a glance is very great; and though the majority of the dates are given, many will not take the trouble to note and compare them with the style of the pictures, who might have been caught by the chronological sequences if brought palpably before their sense of sight. A comparison of the dates shows one important point unmistakably, that Reynolds in the main was progressing to the last years of his life. This is more often the case with genius of such a calm and equal temperament as his, than with genius of the more stormy and romantic type; it is the Beethovens and Turners who overleap the mark, and become obscure and uncertain in their latest productions; the Mozarts and Reynoldses who go on quietly maturing to the end of their days; a quality the more remarkable in the case of Reynolds, who lived to an advanced age and had a long artistic career. "The Hon. Miss Frances Harris" (No. 75 in the Grosvenor Collection), painted in 1789, is one of his last works, one of those child-portraits in which he was so eminently successful, and which make one think that he must have loved children much to have painted them with such sympathy and tenderness. There are few finer examples of his powers than this rich and beautiful work, in which the lovely child stands against a background of dark foliage, with a distant landscape completing the *ensemble*. This is one of the most full and rich in manipulation of all the works exhibited in the Galleries; and the framing of the portrait, as is almost always the case with Reynolds, exactly suits the character of the figure. The child is a full-blooded, dark-eyed little creature, and the landscape and the figure make a beautiful unity, each seeming the complement of the other. Reynolds showed still finer perception, rising to poetic insight, in choosing (for we cannot doubt that the choice was his own) to paint Mrs. Nesbitt as "Circe" (11), the picture before referred to. This stately calm beauty, with a lurking cruelty in her countenance, fits well with the idea of the weird, sensual enchantress of Homer. The painting reminds us again of the variety and point in Reynolds's treatment of his sitters, his perception of the attitude and the nature of the accessories suitable to each. He never seems to make a mistake in this point. An excellent instance of quite an opposite type to the "Circe," is the portrait of a young lady, rather vaguely described as "A Niece of Edmund Burke's Lawyer" (147), which is going a good way round to bring Burke's name in. This is a very opposite character to Mrs. Nesbitt, who was suited otherwise than in appearance for the part of Circe. This looks like the portrait of one who would be described as "a good girl"; nice-looking, but with no remarkable qualities; a lady, but not a fine lady. Nothing could be more suitable and expressive than her quiet composed attitude, the hat partly shading her modest countenance, the hands, with large gardening gloves on, posed in an attitude of easy and perfectly unstudied grace. The innate gentlemanliness of Reynolds's own character is nowhere better indicated than in this portrait; none but a man of refined mind and associations could have painted it. His perception of character is shown in another direction in the portrait of "Lavinia, Countess Spencer" (118), which has been exhibited several times in London of late years; it was for some time among the collection of Spencer portraits lent to the South Kensington Museum. The peculiar suitability of the head-dress and general make-up of the figure may have been due to herself as much as to Reynolds; the countenance is one of the most lovely combinations of lady-like refinement with character and a touch of *espièglerie* that has ever been seen; one is quite grateful that such an exquisite personality should have been preserved from oblivion, for as long at least as Reynolds's pigments will last. The well-known large painting of "The Duchess of Devonshire and her Child" (81) is another example of Reynolds's versatility; the lady is playing merrily with the child, in the highest spirits, but she is "the Duchess" all the same; her mirth is dignified. "Mrs. Pelham feeding Chickens" (9) has a piquancy of another kind. This, by the way, was not only at the Manchester Art Exhibition in 1857, as mentioned in the catalogue, but at one of the Burlington House exhibitions since then, about ten years or more back. It has been cleaned almost out of recognition, as far as colour is concerned, in the meantime. Then there is Mrs. Abington (7), to go lower in the scale, as "Miss Prue" in Congreve's brilliant and unfortunately now unpresentable comedy, leaning on the back of her chair, and biting her nails; and in the opposite direction of stage effect we have the large portrait of the beautiful Miss Gunning, or, rather, the Duchess of Hamilton (26), in flowing drapery, which is stagy without being so intended,—a rare defect with Reynolds.

It has sometimes been regretted that Reynolds did not devote more of his powers to the ideal side of his art, instead of spending his life almost exclusively on portraiture. It may be doubted whether he would have taken so high a place as he does had his aims been more ambitious, in spite of his declaration at the close of his life as to what he would have done had he had his career to run over again, and how it would have been his aim to follow in the steps of Michelangelo. He probably mistook his own *métier* in this idea; and to many there will seem to be something almost whimsical in the mere idea of the coupling of the names of Reynolds and Buonarotti. But there are examples among his works which show a spirit that reminds us to some extent of that of the great Italian whom he so much reverenced. Something of this spirit is seen in the well-known "Mrs. Siddons as the Tragic Muse," which occupies a central position (55) on one of the walls of the west room at the Grosvenor Gallery. But though a grand composition, there is a touch of the theatrical in it, not unsuitable to the subject, perhaps, but certainly at variance with the Michelangelo spirit, which was never theatrical in its manifestations. In connexion with this picture it is mentioned in the catalogue that it is one of the few works on which Reynolds inscribed his name, which is worked into an ornament on the border of the great actress's robe. The characteristic remark of Reynolds on the subject, which is on record, is not given; when Mrs. Siddons observed the incident, the painter replied that he was "but too happy that his name should go down to posterity on the hem of her garment." But if we were asked for an indication of something of the spirit of Michelangelo in Reynolds, we should find it rather in such a work as the portrait of little "Lady Gertrude Fitzpatrick" (153), the grand style of which we remember commenting upon when it appeared in one of the Burlington House loan exhibitions. This is much more than a portrait: it is a kind of apotheosis of beautiful and dignified childhood. The figure stands alone, centrally in the canvas, on the top of a rising ground, a flower growing at her feet. All littleness, all mere prettiness, is eliminated from this painting; there is a breadth and power of style in it which makes it almost monumental in character, and raises it to the level of the highest artistic feeling and inspiration. In some degree analogous, though very inferior, is the "Prince William Frederick" (53), treated in a similarly broad and abstract style. Walpole's note on it was, "Well, but too washy"; but the washiness was rather in the mind of the critic, perhaps. There is a very imposing style, too, in the "Master Lister, afterwards Lord Ribblesdale' (20), standing with a long staff held at arm's length from him, in the manner of one who would not be painted or posed as ordinary mortals. In this work Sir Joshua certainly had Vandyck in his mind; the dress, even, is called in the catalogue, and was perhaps intended as, a "Vandyck dress," though this is hardly correct; the costume has not the superbly rich and sumptuous character of the typical Vandyck costume. The influence of Vandyck is obvious again,—perhaps rather too obvious—in the small equestrian portrait of the "First Lord Amherst" (120), who sits his broad-backed rearing charger in the manner so familiar to us in the salient figures of Vandyck's battle-scenes. The life-size portrait of the same commander (174), with his chin leaning on his hand, and, as if revolving in his mind some plan of action, is wonderfully spirited and powerful. Among highly characteristic portraits of very opposite character may be mentioned those of "Baretti" (73) and "Miss Jacobs" (79). The rather truculent Italian who enjoyed the friendship of Johnson and Burke appears, in this well-known portrait, as only too much in accordance with the sarcastic character given of him in Mrs. Thrale's lines from the verses on the Streatham portraits, appended in the catalogue. The likeness would lead one to question whether his part in the scuffle in the Haymarket, which brought him in danger of the ultimate vengeance of the law, was quite as innocent as his illustrious friends fortunately succeeded in making it appear. "Miss Jacobs" is one of the quieter and more realistic type among Reynolds's portraits of women, remarkable for its exquisitely refined grace and sentiment; a three-quarter length of a lovely and gentle young woman, seated, nearly in profile. "The Strawberry Girl," which he himself characterised as "one of the few really original things he had done," is in the Gallery (86), another example of his occasional power in imparting poetical meaning into a child portrait. It represents the same kind of aim as the "Prince Frederick William" and "Lady Gertrude," though in a less serious manner. The two latter, it may be observed, were painted within a year of each other (1780 and 1779 respectively), and seem to indicate a certain turn of his artistic feeling at the time. The "Strawberry Girl" is some years earlier.

Reynolds rose more nearly to poetic expression through such portrait works as these and the "Circe," than when he painted what might be regarded as ostensibly poetic subjects. His "Nymph" (39) is not a happy effort, and is a very milliner-looking nymph; and into "Cymon and Iphigenia" (160) he did not succeed in putting any more ideality than is in Dryden's poem, which is little enough; but as a study of the nude, for a painter who did not habitually practise that department of painting, it will always remain as a very fine example. Another instance of work out of his usual line is to be observed in the landscape, "View from Richmond Hill" (165), not one of the best interpretations of that rich bit of scenery, but very interesting as coming from Reynolds.

It is useful, in comparing the past with the present, to notice that as in the case of the Reynolds of our own day, who is leaving

or posterity such a series of splendid likenesses of the society of to-day, so, in the case of Sir Joshua, there were not wanting detractors who discovered that he could not draw, could not colour, and received far too much money for his paintings. Walpole's remark on the very fine and expressive group of the then Ladies Waldegrave (his nieces) is that "the details are slovenly, and the faces only red and white," the latter expression conveying the idea, however, that the original colour was very much fuller and stronger than as we now see it. Sir Joshua was very careless with the hands of his figures at times ; possibly in some of these cases the work was not his own, though one can hardly understand a great painter leaving to an assistant a feature so difficult and so expressive of character as the hand. He painted, probably, too fast at times, and undertook too many commissions ; but had he been more reticent he would have left us a less full and interesting record of the life of his day. Perhaps some similar reflection may be made when, a century or so hence, the works of John Everett Millais shall, in like manner, be collected, in some future Grosvenor Gallery, as a great portrait-painter's record of the life of our own day, its costume, and its social character.

NOTES.

WE record elsewhere the results of the meeting at the Mansion House on the 28th ult. to consider the subject of the dwellings of the poor ; but we may observe here that the meeting seems to have missed taking cognisance of one of the most important points in which legislation on the subject is at present deficient. The necessity of more efficient execution of the sanitary Acts now in existence was enforced, and this and other points of importance in regard to the working of such Acts appear to have been considered in a very practical spirit ; but the one especial point in which more definite legislation is required is, in regard to compelling the landlords to keep tenements in a proper state of repair, even in regard to matters which do not affect sanitation as generally considered. For all shortcomings which concern the question of public health there is now adequate legislative enactment, if properly put in operation. But there is no provision at present for compelling the landlords of the poorest class of houses to keep them in repair in regard to matters which do not affect public health or structural safety, but only the proper comfort of the inmates. Even in the case of wealthier tenants, who can bring other than legal pressure to bear, the landlord at present has it far too much his own way. But the tenant of the poorest class of dwelling has at present no legal redress for any state of dilapidation in which his habitation may be, beyond the class of deficiencies which come under the province of the sanitary inspector. He cannot even adopt the ordinary weapon of giving notice to leave ; for where is he to go ? Only into another tenement in as bad a state.

WE hear that Mr. F. C. Penrose has been spending some little time at Athens, visiting the scene of his former labours, which resulted in the production of what we have always regarded as the most remarkable and valuable illustrative publication that any English architect has produced. Those who are interested in Greek architecture,—that is to say, all architects of learning and culture, as well as many who are not architects,—will be much interested to hear anything further from Mr. Penrose on the subject which he has made his own, and we hope that his visit may enable him to throw still new lights on some of the questions in connexion with Greek architecture, whether on its constructive or its æsthetic side.

THE manner in which the official regulations for the preservation of theatre audiences from fire, inadequate enough in themselves, are or may be carried out, received some interesting light from a letter from Mr. Arthur W. C. Shean, Captain of the Fire Brigades Association, in last Saturday's *Times*. This gentleman visited "a large London theatre, lately inspected by the Lord Chamberlain," and found the fire-buckets duly hung up, but empty ; no provision for extinguishing fire in the flies except "an intention" on the part of one of the firemen to run up a line of hose there from one of the stage hydrants. One very fiery place is said to be "paved with good intentions," which may have stirred up a spirit of emulation in this philosophical fireman. A few lengths of hose had arrived, Captain Shean was informed, "just in time for the Lord Chamberlain's inspection." In reply to a question whether he had timed the exits, the manager replied in the negative, adding that it was no matter if the theatre were burned, as it had been passed by the Lord Chamberlain : the audience being apparently included as part of the theatre, just as the "ancestors" were part of the chapel in Mr. Gilbert's opera. Altogether, Captain Shean seems to have exhibited an inquiring turn of mind, and to have been answered with a charming confidence. We have seen no contradiction of his story.

AT the Fine Art Society's room in New Bond-street are to be seen just now some very brilliant and powerful water-colours by A. N. Roussoff, a Russian artist, of no ordinary ability. The drawings are chiefly scenes in Venice, into which architecture enters largely as the framework to the figure-subjects. The drawings, in spite of great force of effect and apparently free and rather rapid execution, are remarkable as being all executed in pure water-colour, all the lights, down to the smallest touch, being "left," and nothing added in body-colour.

IN an interesting letter in Thursday's *Times*, Mr. George Godwin, for so many years the conductor of this journal, has recorded the history of Mr. Holloway's first ideas in regard to the dedication of a large proportion of his wealth to purposes of public benevolence. Mr. Holloway knowing (what some people at present seem to be remarkably ignorant of) that Mr. Godwin had given special time and attention to the consideration of the condition of the dwellings of the poor, introduced himself, asking for information on the subject, in order to ascertain how he could do the greatest public good without pauperising any class. A notice of the fact in this paper brought Mr. Holloway, through its then editor, about 700 letters of suggestions, out of which was evolved the idea of the Sanatorium at Virginia Water. Mr. Holloway's desire to gain the best information, and, at the same time, to avoid courting any repute as a philanthropist, were equally to his credit.

IT is significant of the present excitement on the subject of the dwellings of the poor, that the inhabitants of Brompton, which hardly numbers any appreciable amount of the very poor in its district, have set on foot a knight-errantry for looking after and inquiring into the means of benefiting the poor of other districts. A more noble kind of work of course could hardly be imagined, provided that the work is carried out on sound and what may be called scientific principles, which in social matters are not at variance with, but the requisite corollary of, Christian principles. Some of the investigations of the Brompton Committee in Southwark, reported in the daily journals, entirely bear out what we have said above, that where legal reform is wanted it is in the direction of compelling landlords to keep houses in decent repair, as well as in what is usually understood as a proper "sanitary" condition.

FROM the long letter by a Past-President of the Institute which appears in another column, it would seem that there is a strong feeling on the part of the Executive of the Institute in regard to the desirability of the profession giving a combined support to their representative body, as the only official body which effectively act in their interests. While endorsing this feeling, we may hope that the dark hints in the latter part of Mr. Whichcord's letter, as to the possible or probable results of a certain impending architectural competition, may not be realised ; if they are, it will be to the discredit of the English Government, as people will find out when they begin to understand the subject better in this country. Meantime, we may direct attention to the fact, as mentioned in another column, that the great French architect who is just dead, in a presidential speech made on a public occasion, called the attention of his brethren to the Gold Medal of the English Institute which he wore, as one of the honours he specially valued. Both our Institute of Architects and their assailants might as well bear this in mind, though for opposite reasons.

MR. HERBERT APPLETON, A.R.I.B.A., read a paper at the Civil and Mechanical Engineers' Society on Wednesday evening, on "A Sanitary View of Outcast London," in which he rather leaned to the view that much of the dilapidation of tenements is the fault of the tenants. We have before hinted that there is some truth in this, but we cannot doubt that also there is culpable neglect on the landlords' side about matters which the present law does not touch ; *vide* a fact quoted from the pamphlet on "Outcast London" (page 634 of our last volume), and which we have since had confirmed on other evidence. In the course of the discussion on the paper more than one speaker gave it as his experience that the poorest class were unwilling to go into decent homes when built. There are many things to be unravelled before we can get "dry light" on this subject.

THE result of the placing of a "test" equestrian statue on the north-west pedestal at Blackfriars Bridge is just what we should have expected,—an absurdity. The design of the pedestal, made in the first instance by an engineer with, probably, not the slightest consideration for its relation to the effect and proportion of sculpture, would render it almost impossible to place any statue on it with good results. We have a great coarsely-designed mass of masonry with Brobdingnagian Gothic details of a questionable character, of such a size that only an abnormally large or colossal statue could fit its scale, which, if put up, would dwarf everything around it. Accordingly, upon this, a smaller pedestal, of different character of mouldings, &c., has been built, and on that an equestrian statue of moderate size has been placed, which thus stands on a confusedly-designed mountainous stone erection, which in its turn completely dwarfs the statue, and makes it look ridiculous. So we do these things in England. The only way to do it is to remove a considerable portion of the original stonework, including the coarse Gothic carving, and have the pedestal remodelled on a lower level, by some one who understands his business, and will work with direct reference to the effect and proportion of the sculpture proposed. Unless this is done, another will be added to the artistic blunders of our street embellishments.

THE LATE M. LESUEUR.

ON Friday, December 28th, 1883, there was borne to his last resting-place one of the most eminent architects of our time, Jean-Baptiste-Cicéron Lesueur, Member of the Institute, and former President of the Société Centrale des Architectes de France, President of the "Réunion Amicale" of old pupils of the École des Beaux Arts, Honorary and Corresponding Member of the Royal Institute of British Architects, Professor at the École Nationale des Beaux Arts, former architect of the Hôtel de Ville of Paris, &c. The insignia decorating his coffin were those of an officer of the Legion of Honour and of the Department of Public Instruction of France, and the Gold Medal granted annually in the name of Queen Victoria by the Royal Institute of British Architects. The pall-bearers were six members of the Académie des Beaux Arts, MM. Eugène Guillaume, sculptor, Vicomte Henri Delaborde, Permanent Secretary of the Académie; Albert Lenoir, architect, Secretary of the École des Beaux Arts; Du Sommerard, Presi-

dent of the Association of Artists founded by Baron Taylor; Chas. Questel, architect, President of the Société Centrale des Architectes, and Antoine Bailli, architect, President of the Society of French Artists,—the two latter honorary members of the Institute of British Architects. At the cemetery four discourses were delivered,—by M. Guillaume, in the name of the Académie des Beaux Arts; by M. Lenoir, in the name of the École des Beaux Arts; by M. Questel, in the name of the Société Centrale des Architectes, and by M. Ch. Vincent, in the name of the Société d'Amis de la Chanson, of which M. Lesueur was an honorary member. From these discourses, as well as from personal recollections and from notes kindly furnished by M. Eugène Müntz, Librarian of the École des Beaux Arts, I am able to give the following summary of the career of our honoured colleague.

J. B. Lesueur, or Le Sueur, was born at Claire, Fontaine, near Rambouillet (Seine-et-Oise), the 5th October, 1794, and followed, from 1811, the course of architectural instruction at the Académie des Beaux Arts, to which he was admitted as pupil of the illustrious Percier, and later of Tamin the elder, both former holders of the "Grand Prix de Rome" for architecture. It was, indeed, owing to the great influence of his first master, architect to Napoleon I., that Lesueur, who was drawn for military service among the great levies which marked the last years of the First Empire, was allowed to serve his term as attaché to the department of "Conservation des Forêts," and could thus pursue his studies without more interruption than a few light duties and the wearing of a smart uniform. He carried off the second prize in architecture in the competition of 1816, the subject of which was a "Palais de l'Institut"; in 1817, he obtained a medal at the exhibition at the Louvre, and in 1819 obtained the "premier grand prix" for a design for a cemetery or "champ de repos," sharing the honours, however, with F. Callet. The laureates went together to Rome, not without stopping, both on the way there and on their return journey some years afterwards, to study what was to be seen in the North of Italy, and thirty-five years later they published a volume on Italian architecture, under the title "Edifices publics et particuliers de Turin et de Milan, mesurés et dessinés par F. Callet et J. B. C. Lesueur, architectes, anciens pensionnaires de l'Académie de France à Rome." * In conformity with the rules of the Académie, they commemorated their stay in Rome by an "Étude de l'état actuel" (1824), and a project for the restoration of the Ulpian Basilica, comprising five sheets of drawings and some explanatory notes, for the materials of which they were considerably indebted to their English colleague and friend, Professor Donaldson. This restoration was one of the first published of that remarkable collection of restorations of ancient Roman monuments by the architect pensionnaires of the French Academy at Rome, since 1788 to our own day; a collection published, with the author's notes, under the auspices and at the expense of the French Government. It may be interesting to give the titles of the plates of this fine work:—

Pl. I. Etat actuel de la Basilique Ulpienne à Rome (Fouilles faites sur le Basilique Ulpienne par le Government français en 1812 et fouilles faites en 1824), élévation sur le largeur de la fouille, coupe sur la longueur de la fouille.

Pl. II. Plan général de la Basilique Ulpienne; coupe générale restaurée.

Pl. III. Plan restaurée de la Basilique Ulpienne.

Pl. IV. Restauration de la coupe sur la longueur.

Pl. V. Restauration de la coupe sur la largeur.

Pl. VI. Détails (au $\frac{1}{8}$) de l'ordre de l'intérieur de la Basilique.

On his return to Paris, in 1826, he published, in conjunction with M. Alaux, jun., historical painter, a collection of lithographs under the title "Vues Choisis des Monuments Antiques de Rome" (1827), and a little later (1826 to 1830), he carried out the parish church of Vincennes, a building of great simplicity, but pleasing from its harmonious proportions.

It was about this period (from 1830 to 1840) that he carried on one of the most interesting portions of his work, now too little known; for during these ten years he constructed in Paris a great number of princely mansions, some of which still exist, not entirely obliterated by the lines of the great interior boulevards of the Madeleine and the Gymnase; and in these edifices, built on very restricted sites, where the height of the building was fixed beforehand and the imagination of the artist hindered by a thousand practical necessities of domestic arrangement and commercial profit, Lesueur accomplished marvels of good taste and artistic feeling. He gave to the French dwelling-house, which under the Revolution and under the Empire, had assumed an Egypto-Etruscan character perhaps a little sepulchral, the elegance and charm suitable to such a town as Paris; so that when, in 1873, on the proposition of MM. Jules and Paul Sedille, the Société Centrale founded an annual medal to be given to the best masters of domestic architecture, it was declared in the first report of the jury, that "avant tous autres noms seraient inscrits, en tête de la liste des lauréats, les noms *tout-à-fait hors concours* de feu Duban et de J. B. Lesueur," the jury thus rendering a special homage to those two masters who were, after Percier, the founders of our contemporary French school.

In 1840 Lesueur was engaged in the extension and completion of the Hôtel de Ville of Paris. Every one will remember the remarkable beauties of that building, a true Palace of French Municipal Administration, of which there now remains to us only the recollection of those finely disposed state apartments, without a rival in Europe. What official, what minister, what sovereign even, has not envied the Prefect of the Seine the luxury of that palace, regal in the magnificence of its interior decorations? One hour of criminal folly destroyed that edifice, in which another master of his art, Victor Baltard, had erected "the Marble Staircase," the most charming *hors d'œuvre* of contemporary architecture, which had been measured, drawn, and engraved by an admiring colleague, Victor Calliat, to be reconstructed ten years afterwards by MM. Ballu and Deperthes on its former site. Lesueur, it may be noted, to the end of his life, was accustomed to inscribe himself as "Architecte de l'Ancien Hôtel de Ville de Paris," evidently conscious of this as his best support of his artistic reputation.

For the rest, his English colleagues, and, among others, the late E. M. Barry and F. P. Cockerell, as well as, among the living, Professor Donaldson and Mr. Fergusson, appreciated at its true value the talent of Lesueur; and from the moment when, in 1846, the Institute of France called upon him to succeed Antoine Vaudoyer* in the section of architecture, the Royal Institute of British Architects named him honorary and corresponding member, even before the French Government had created him (in 1847) Chevalier of the Legion of Honour; and in 1841, when, after having been named Divisional Inspector of the Grand Commission of Highways, Lesueur retired from practice, the same society presented him with their gold medal, an honour with which he was especially touched. In fact, in 1876, when Lesueur was called to the presidency of the Société Centrale des Architectes, he appeared decorated with that gold medal, and in the course of his speech from the chair drew attention to it in the following remarks:—

"Je veux aussi attirer votre attention sur la distinction honorifique que j'ai cru devoir porter au milieu de vous aujourd'hui; c'est la médaille royale que decerné l'Institut des Architectes Britanniques, médaille que j'ai recue en 1861, et qui, accordée à un bien petit nombre d'artistes étrangers à la Grande Bretagne, est pour moi, pour notre corporation, pour notre art français, un gage précieux de l'estime que les architectes anglais portent à leurs confrères de France. C'est à ce titre, messieurs, que votre President a cru devoir s'honorer au milieu de vous de cette distinction rare, qu'il considère comme méritée par notre art français contemporain."

Lesueur was promoted in 1870 to be officer of the Legion of Honour. We may add to the brief enumeration of the constructions which he carried out, two which indicate the varied nature of his professional acquirements, a sugar-refinery in Portugal, and the Conservatoire de Musique at Geneva, which were built respectively in 1874 and 1877; of the planning of the latter building he was very proud. We may also mention, as a project not carried into execution, the remarkable water-colour studies for the decoration of the Place de la Concorde, which he made in 1840; and, finally, his accession to the post of "Professor of the Theory of Architecture," at the École des Beaux Arts, to which post he was called in 1852, as successor to Abel Blouet, and which Lesueur filled till his death, regulating the conduct of the students' competitions, giving annually many lectures devoted to the study of the antique orders, taking his part in all the juries of the School as well as of the Académie, and summoned also for twenty years, and down to almost his last days, to most of the juries of the Salon and of various architectural exhibitions. Nor must we forget an important archæological study which he made at a moment when the works at the Hôtel de Ville were suspended, of the publication "Chronologie des Rois d'Egypte," a work crowned (*couronné*) by the "Académie des Inscriptions et Belles Lettres de l'Institut de France" in 1846, and printed by authority and at the expense of the Government, at the "Imprimerie Nationale" in 1848. In the two portions of that work Lesueur studied successively the corrections as to the lists of the Pharaohs as gathered from ancient authors, which could be furnished by the study of hieroglyphics and Egyptian monuments, and finished with a "Canon Chronologique" from the time anterior to Manes to that of the conquest of Alexander.

One may imagine that, after this important work on Egyptian chronology, the writing of some "Researches in regard to the Date of the Tower of Babel" (published in the *Revue Archéologique*) was for him only a kind of rest from more serious labours. But that one of his writings to which Lesueur attached the most value, that which summed up for him the results of his long life of labour and study, was his "Histoire et Théorie de l'Architecture," a volume which appeared a little too late, in troublous times, and which, it must be confessed, did not arouse in the French architectural world the notice which such a work ought in any period to have excited; and, in spite of the matter of the curves of the Parthenon (the existence of which Lesueur persisted in denying), the work exhibited some remarkable and brilliant suggestions in regard to the ancient architectural orders.*

Although in his eighty-third year at the time this book appeared, Lesueur was still active and full of energy, and handled both pen and pencil with equal facility. He was considerably interested in the reviews of his work which reached him from England, and wrote to the writer of this notice about them as follows:—

"Mon cher Confrère,- Une lettre fort singulière que je viens de recevoir de Donaldson me rappelle que vous m'avez promis de donner une traduction de l'article qu'il a fait insérer dans un journal anglais (the *Builder*, 17), et dans lequel il doit prendre parti pour les courbes imaginaires de M. Penrose. Je suis bien curieux de voir cet article, et vous serais très obligé de vouloir bien me le communiquer. —Je vous serre cordialement la main, LE SUEUR."

We may be permitted to cite here, by way of close to these discursive notes, a verse from one of the *chansons* which Lesueur, always ready to take part when his turn came, never failed to render to his comrades at the "Académie des Chansons" before referred to,—an institution now nearly 100 years old. His productions as a *chansonnier* might, indeed, afford matter for long extracts, on very divers subjects; but we cite these couplets, which were produced at a meeting in 1879, and which seem rather touching, in reference to the philosophic title of the chanson of which they form part: "Je ne veux pas rajeunir," and by the patriotic sentiments which they express:—

"J'ai vu nos cités tributaires
Payer de honteuses rançons,
Et les cavales étrangères
Out aux pieds foulé nos moissons.
Comme les vents, le sort varie;
Aujourd'hui je vois refleurir
Le sol de ma belle patrie;
Non, je ne veux pas rajeunir."

But we must pause, though we have not spoken of Lesueur's charming retreat, which was built near Triel, on the bank of the Seine, and where he passed all the summer; nor have we spoken of his kindly and affectionate character, or of the just return for it from those around him, which soothed his long but green old age. These notes, nevertheless, though very incomplete, will, we hope, have some interest for our English professional brethren,

* In folio, 31 plates, of which many are double. Paris: 1855.

* The father of Leon Vaudoyer, who died a few years ago, and was an honorary and corresponding member of the Institute of British Architects.

* The work was reviewed in our columns at the time. It then struck us as brilliant and imaginative, but fanciful; and in his criticisms on Mr. Penrose's Parthenon studies Lesueur certainly did not show to advantage.

inspired as they are by the desire to make known to them something of one who was an eminent master of French art.

A FRENCH ARCHITECT.
(Hon. and Corresponding Member of the R.I.B.A.)

Paris, Dec. 31, 1883.

GERMAN TOWNS.

THERE is, perhaps, no country in Europe in which towns so truly represent the national development as in Germany. Almost every one of her great towns is a type in itself, points to some portion of her history, and forms, as it were, a landmark in her existence. Glancing at a few of the chief names, each of which has a story of its own, we find most of them synonymous with some phase of German life, present or past. Thus Dresden represents her art and literature; Cologne her religious feeling; Coblentz her military greatness; Bacharach and Boppart her legendary poetry; Heidelberg her university life; Nuremberg and Worms and Salzburg her Mediævalism; Munich her modern art; Hamburg her commercial greatness; and Berlin her national revival. When we pace the magnificent galleries of Dresden, and gaze upon the masterpieces of a Raffaelle or a Holbein; when we view with wonder the collections of china, jewels, and armour, we feel that we are in a town where art is the leading motive, and good taste the ruling feature. Of all German towns, Dresden is most frequented by Englishmen. Half the people that daily assemble on the "Brühlocheterrace" are English residents. The magnificent Opera-house is almost as much visited by the English as by the inhabitants themselves; and we might perhaps say that it is the English element which gives the town its air of quiet dignity and peace. The streets are broad and clean, the bridges massive, and the churches, though they cannot bear comparison with those of other towns of equal magnitude, are nevertheless fine examples of a certain phase of modern Classic architecture. The grandest building in the town is the Opera-house, which is the most beautiful in Germany; while the "Grüne Gewölbe," the museum of armour and china, and the superb gallery, are places that must be visited and studied. They cannot be described, they must appeal to the feelings.

If Dresden is the type of what we might call the older modern art of Germany,—if it is the city most frequented by Englishmen,—there is another German town which typifies the modern schools of painting and sculpture, which attracts to its walls numbers of art-students from America, and which realises, as far as may be, the idea of a model modern town,—that is Munich: a town which does not look as if it had a past history, or as if it had grown and developed, but as if some ingenious architect had made an elaborate plan of it, ruled its streets into straight lines, pencilled out its squares and terraces, and deposited in the most painfully accurate places its gorgeous buildings, its frescoed temples, its triumphal arches, and square-cut houses. Munich is a magnificent town, but with all its magnificence it lacks the solemn grandeur of Dresden; sometimes it even lacks good taste. Its marble halls and palaces at times grow tedious, and its endless frescoes of muses and classical heroines make us wish again for the less Titanic but more homely conceptions of the artist of the fourteenth and fifteenth centuries. Munich is full of art, but not always artistic. Every statue has its fellow, every painting its rival; the columns of the Basilica are perfect; the friezes of the Glyptothek are without a flaw; and every temple is minutely correct; but we long for the old Gothic arch, the grotesque, the broken trellis-work, the gabled tower, and all those odds and ends of architecture and natural grouping that go under the denomination "picturesque." The town is beautiful and artificial. Those

> "Avenues of broad white houses
> Basking in the noontide glare,"

says a modern poet, who must have visited the capital of Bavaria on one of the hot summer days for which the place is so famous, and paced its great shadeless open squares under a powerful Continental sun. There is no wonder that the tired traveller, on such a day as that on which Calverley investigated the City of the Isar, extols the beer of the "Hof-brau Haus," before he can with renewed vigour pursue his researches under triumphal arches and halls, through palaces and galleries, Pinakotheks and Glyptotheks, to the extent of ultimately allowing himself to be carried up to the colossal Bavaria, and baked in the statue's head.

Another of the typical towns is Cologne. We have said that Cologne represents the religious feeling of the country, and, broadly speaking, this may be said to be correct. Though the Protestant element is but small, the magnificent shrines and fanes of Cologne are as much revered by Protestant visitors as by Catholic pilgrims; not so much from respect for religion as from love of art. It is Protestant money that has completed the cathedral, and the funds for the maintenance of the churches and sanctuaries are obtained more from the pockets of the inquisitive tourist than from the free gifts of the pious believer, however firmly he may trust in the truth of the skulls of the three Magi, the hand of St. Ursula, or the tooth of St. Geryon. Cologne, as Coleridge says, is "a town of monks and bones"; for the rest, it is no more what it was in the days of the poet. Since the finishing of the cathedral the aspect of the place has changed. The gloomy traditions that clung to the finest building in Germany, that told how the Devil had laid his curse upon it, and how it was never to be completed, have been swept away by the perseverance of the architect, and the city has awaked as with a burst of fresh life from its lethargy of Mediæval legend. Old houses that obstruct the view of the cathedral are being pulled down, streets widened and thrown open, churches re-embellished. Since the year 1880, when all Germany assembled to see the pile completed, Cologne has been among the first cities to give an impetus to the new national feeling. "From Cologne over Ulm to Strasburg," say the German architects; and the grand completion of the first stage of this work augurs well for the revivification of all the noblest edifices of Germany.

Cologne leads us out of the past into an era of modern revival; Nuremberg takes us back again into the very existence of the Middle Ages. We are in no town of modern times when we visit Nuremberg. We seem, indeed, to be threading the winding streets, and standing under the pointed gables of some old imperial burgher-town, expecting every moment to see a Gretchen, with neat lace collar and graceful pigtail, trip from some quaint carved doorway, and wreathe one of the many sculptured shrines with votive flowers; or greet some burly knight in armour as he swaggers into the "Bratwurst-glöcklein" to drink his bumper of "Bayerisch." On all sides is the town such as Adam Kraft might have left it; such as it might have been when the imperial visitors rode in procession up to the castle, and defied the intrigues of the Saxon Elector under the shade of Queen Cunigunde's lime-tree; or as Hans Sachs might have known it, when the neighbouring gossips came to hear the cobbler poet sing. We walk along the streets lined on each side with projecting houses; we cross canals and see bridge on bridge vanishing in the dim perspective. We go into churches that contain works in stone and iron which are among the finest in their kind,—indeed, the tomb of Peter Vischer, in the church of St. Sebaldus, is rivalled but by Ghiberti's gates at Florence. We pass the venerable mansion of Albrecht Dürer, which is now the rendezvous of the Dürer Club. We mount a winding road lined with lindens, and find ourselves in an old castle that is equalled by no other for picturesqueness. In the midst is the great five-cornered tower, a curiosity of architecture; all around are rows of ramparts, fosses now filled with trees, odd turrets, delicately-shaded steps, antique cornices, gabled towers, pieces of quaint iron railing, and fragments of coloured trellis-work. Inside the buildings are dark passages, groined chambers, old state apartments, latticed windows, panelled halls, rooms filled with all the relics of the Inquisition and Mediæval justice, and, amongst others, a gloomy cell, in which stands that demon of torture, the "iron maiden." Such is the old "burgh" of the Middle Ages, and Nuremberg is one of the last remaining towns that has preserved its castle, and even itself, untouched by the progress of civilisation. It has survived the storms of shot and shell that from the fifteenth century upwards have by degrees demolished many of the most venerable works on the Continent. An hour's blockade from modern guns, and the castle of Nuremberg would be no more. What a difference between the Mediæval and the modern! It would take many hours to level the fortifications of Coblentz. What a contrast between the graceful irregularities of the one and the gaunt upheavals of the other!

Coblentz, as we said, may be taken to represent German military greatness. It is situated on the junction of the Rhine and the Moselle; opposite it is the mighty rock of Ehrenbreitstein. The spot is one of the loveliest on the Rhine. It is difficult to express how the military genius of the engineer has lessened its beauty. All along the huge incline of rock are massive bastions, ponderous square towers, and straight, tedious ramparts of white stone, embellished with nothing but loopholes. The town itself is without artistic interest; there is a starched military air about it which forbids art. Every other house is an arsenal, every other man a soldier. The tight-strapped, well-buckled Prussian officer curls his moustache, and looks with satisfaction on the creaseless *taille* of his trousers, and no doubt in his way adds much to the dignity and majesty of the military town; but if we look for artistic beauty outside the army hosiery department, we must not go to Coblentz.

A little higher up the Rhine are the two small towns that we have selected to represent the legendary poetry of Germany,—Bacharach and Boppart. Boppart stands on a bend of the river, and opposite one of the most romantic ruins in the whole Rhine valley, the twin castles of Sternberg and Liebenstein; and Bacharach beneath the brow of a hill that bears on it the rambling ruins of castle Stahleck, and the graceful sandstone columns of the "Werner's Kirche." All around the place teems with legends. Every rock, every bend in the river, every turn in the road, every erection,—be it the lofty castle, the graceful church, or the wayside cross,—has some tale to tell, some strange legend to unfold. It needs but a fine moonlight night and a vivid imagination, and we are plunged into a fairyland of dreams; we hear in the plash of the boatman's oar the dance of the Rhine nixie. We see in the moonbeams that peep through the gaps of the ruined wall the form of some phantom lady. The drowsy humming of the wind is as the swarming of elves and fairies. In the moving lights on the opposite shore we see the glittering pageant of knights in armour. In the singing of some unseen village maiden we hear the mystic music of the Lurelei.

Though the Rhine ruins are lovely, there is one ruin in Germany which surpasses all others in magnificence,—the stately castle of Heidelberg. Situated on the side of a range of hills, it commands a splendid view over the Neckar valley and the snug city of Heidelberg, which lies beneath it. Built of the red sandstone so common in those parts, its different styles of architectural adornment harmonise as much in their entirety as in their partial state of ruin. French powder has done its work relentlessly, but even French powder has added to the beauty of the spot. Of the various buildings, those that are but partly destroyed are being carefully renovated from the old plans, and those tnat are too far gone for reparation have been claimed by nature as her own, and are being bedraped with the beautiful foliage and verdure with which the place abounds. Besides the castle there is not much of artistic interest in the town itself. The real interest lies in its being the typical town of German student life. It represents the "Jugend Jahre" of the country. We inseparably connect Heidelberg with the "Commerce Büch" of national song, with the neatly sanded floors of inn rooms, festooned with ivy garlands, and decorated with drinking-horns, with the clubs of jovial students, with good nature, merriness, and hospitality. There is an air of content and happiness in Heidelberg which is more or less expressed in everything, whether it be in the loveliness of the woodland scenery, or in the neat cleanliness of the streets, or in the swagger of the corps students with their many-coloured caps, or in the benign look of the portly professor as he returns from his morning lecture.

From Heidelberg, the pretty university town, it requires some stretch of imagination to plunge us into the bustle and activity of Berlin, the great capital. Berlin is also one of the new towns, and new particularly in the last ten years; for it represents the fresh burst of national feeling that has awakened in the breast of the nation since the Franco-German war. Unlike London, where the art of each generation has succeeded the fore-

going, where pile has been heaped upon pile, till we have one vast mass of magnificence and ugliness, while everything alike is covered with the impartial grime of smoke; unlike Paris, where the beautiful city of a monarchy has been turned into the beautiful city of a republic and an empire, till it has become the most beautiful city of the world; Berlin has little to tell of the past, and has sprung into life so unaristocratically in the last few hundred years, that much of its art is too unreal and showy to be pleasing. There is a cold, unsympathetic atmosphere about the town, and often an air of snobbishness in its decoration, and in the people to be met in its streets. The famous avenue, "Unter den Linden," is scarcely worth the name, and cannot be compared to many of the boulevards of Paris or the parks of London. But Berlin is fast becoming the home of many of the treasures of modern art. Frescoes of Kaulbach and paintings of Makart and the best of modern German painters, adorn its halls, while its galleries and squares contain most of the finest works of Canova, Thorwaldsen, Schinkel, and Danneker. Of the way in which the Berlin art collections are being added to we have abundant evidence every day; it is not long ago that the city of Berlin gave a better price for certain manuscripts, which should never have left England, than our own Government. The curse of Berlin is officialism, and that air of swagger and parvenuism which attends the surroundings of a new dynasty. We see it in all alike: in the theatre and in the art exhibitions, in the tramway officials and in the portly dignitaries of the imperial household, in the fashionable hotels, in the magnificent palaces of Potsdam.

To close our hasty sketch of typical German towns, we have but one more to mention, and that is the great town which represents the nation's commerce, the venerable Elbe town, Hamburg. Commerce is the mainspring of a nation's political timepiece, and if any city represents commerce in its widest sense, it is Hamburg. Carrying on the traditions of the old Hanseatic league, of which it was once the head, it still preserves the pomp of municipal freedom, though shorn of most of the reality. It is a town of merchants. In Hamburg every one is a merchant; and if he does not elect the merchant's vocation, there seems to be something in the surroundings which makes him a merchant by nature. Every stranger to Hamburg first pays a visit to the houses where, standing on the lofty gallery, he is impressed by the roaring mass of human beings down below, who discuss the mercantile politics of the day. Art in Hamburg there is little or none. The good merchants of the olden days went in more for snug living than for high artistic feeling. But there is a good deal of natural art, or what is commonly called picturesqueness. The town is divided into two parts; each has its beauties. The modern part, consisting of noble streets, shady gardens, palatial villas and residences, situated around a beautiful lake, marks the abode of the merchant of to-day. The old part, intersected by canals, and lined with antique houses with gabled roofs, decorated by quaint churches, and bordered with old-fashioned wharfs and quays, marks the abode of the merchant of the past. One of the chief things that strikes the seeker after beauty in Hamburg is the diversity of colouring in the old part of the town. Here is an ancient row of houses, with gables of red tiles, and faced with deep-tinted stones and carved and coloured beams; here the sombre canal, lined with old brown warehouses, from the windows of which hang ropes and pulleys; often there are to be seen barges freighted with coals or white sacks of grain; behind the red roofs of the houses rise the spires of churches, many of which, on account of their copper casings, have turned green with age, and present a most beautiful appearance when the sun shines on them, and lights up their tints of emerald and grey, and their bright golden weathercocks; here, on one of the many bridges that join street to street, we see the drayman, with the help of his dog, bringing his car full of scarlet milk-pails to the market-place; at another corner of the street, perhaps, we see a flower-girl in her picturesque and spangled costume, almost the only surviving national dress of North Germany; another bend of the road brings us face to face with the finest church in Hamburg, the Church of St. Nicholas, the work of our own Gilbert Scott, and outside is the market-place, where every possible harmony and discord of colour is to be seen. But the grandest part of Hamburg is the harbour; it is the true life of the town. Standing on the hill of the Observatory we see stretched beneath us that noble river, the Elbe, which the thrifty merchant of Hamburg has known so well how to make use of. We see the long rows of wharfs and storehouses, docks leading into docks, quays, and sluices, branches of the river artificially barricaded up and covered with shipping of all sorts and sizes, while all around and fading away into the distance is a vast network of masts. We look on all this, we see the teeming, toiling mass that lies beneath us, around us, beyond us, and we feel that we are in the great merchant town of Germany.

THE IRON TRADE IN 1883.

THE course of the iron trade in 1883 must be described as unsatisfactory, whether we look at home or abroad. Apprehensions were felt at the opening of the past year which have been fully realised. It is a remarkable fact, however, that those fears were based upon the well-known excess of production over consumption which was taking place, and yet, notwithstanding that knowledge, which has been still more brought home gradually to our iron and steel manufacturers by the great falling-off in exports (they were 297,023 tons less by the end of November than for the corresponding eleven months of 1882), it appears to have been, and is still, entirely ignored by them. No steps have as yet been taken to check over-production. It is difficult, under the circumstances, to foresee the end of the depression ushered in at the beginning of 1883. At that time, the feeling pervading all branches of the English iron trade was much less sanguine than had been experienced at that period in previous years. We are now compelled to confess that the feeling was perfectly justified, for the year of which we have just seen the end closed with a depression scarcely less pronounced than that witnessed prior to the revival of 1879. There were various causes at work to produce the depression of the past year. The over-production has already been referred to as a circumstance difficult to understand. The uncertainty which prevailed regarding the effects of the readjustment of the American tariff was another disturbing element in the prospects of the iron trade of this country. It was hoped that the revision would benefit our manufacturers. The result has been the reverse. The change in the trading relations of the two countries has been for the worse, for, whilst the requirements of the United States have diminished owing to a falling-off in railway construction, the increased capacity of production of the States has put another obstacle in the way of an active trade with that country. The decline in our exports to the United States has been most marked, for, whilst during the first eleven months of 1882 they had been 1,121,755 tons, only 650,900 tons, or 470,855 tons less, were shipped in the corresponding period of last year. The falling-off in our shipments to the United States was made up to some extent by larger exports to other countries, but there still remains, as stated above, a deficit of nearly 300,000 tons for the first eleven months of 1883.

In the same way that exports last year fell off slowly, but surely, month by month, prices declined steadily and uninterruptedly. In most cases it was more noticeable towards the end of the year, and values have now reached a point below which it is almost impossible that they could go; and this remark applies to pig-iron as well as the finished product. One of the staple articles of the North of England, No. 3 Cleveland pig, was 43s. 6d. per ton in January last; it is now 36s. 3d., and even less is taken for it. This is a drop of 7s. 6d. per ton, equal to 17 per cent. Scotch pig-iron warrants were selling at Glasgow at the beginning of 1883 for 48s. 6d.; they kept up pretty well at that price until August, when no more than 47s. 6d. could be got for them. They have since fallen to a fraction over 43s., which represents a decline of 5s. 6d., or 11 per cent., on the year. This decline took place, notwithstanding that shipments both of Scotch and Cleveland iron were well maintained. In the latter case they show a considerable growth, for while for the year 1882 they amounted to 931,273 tons, they were, in 1883, larger than during any previous year, viz., 992,815 tons. The shipments of Scotch pig-iron during the past year were 647,000 tons, against 645,000 tons in 1882.

The fall in prices has been more serious in manufactured iron and steel. Ship plates, for instance, another of the staple products of the North of England, were quoted in January last at 6*l.* 10s. to 6*l.* 12s. 6d.; at the end of the year they were as low as 5*l.* 12s. 6d., showing a decline of 1*l.* per ton, or nearly 16 per cent. In the Black Country, marked bars opened at 8*l.* per ton in January, and closed at 7*l.* 10s. in December, having been maintained at the latter figure nearly throughout the year. In Staffordshire, plates were quoted in January at 8*l.* to 9*l.* 10s.; in December, 8*l.* to 9*l.*;—angles, in January, 7*l.* to 8*l.* 15s.; in December, 7*l.* to 8*l.* 5s. These figures show that values have been very well maintained in the staple articles of the Midlands. Steel rails have receded in a more marked manner, for they can now be bought at 4*l.* 5s., and even at 4*l.* 2s. 6d. at works, whereas in January, 1883, they were fetching 5*l.* 5s. This decline of fully 20 per cent. in value has taken place, moreover, notwithstanding large exports. Whilst the decline in prices of steel may be explained by the falling-off in the demand from the United States, the serious drop in ship-building iron, which is almost entirely for home consumption, must be ascribed to the dulness which has gradually crept over one of our great national industries, shipbuilding. Nearly all the other branches related to the iron trade have been well employed, engineers especially having had their full share of work. If we finally state that the tinplate industry has been in a slightly better condition after the collapse of the closing months of 1882, and that business in the hardware branch has not suffered much, although lower prices had to be accepted, we have sketched the principal features of last year's iron trade.

The low prices which we have quoted show the extent to which both the raw material and manufactured product have been affected in the general decline of values in the iron trade. But they also indicate the difficulties with which manufacturers will have to contend in the future, or at least as long as the depression lasts. They have had during the past year troubles also in another shape. Last July witnessed a strike amongst the ironworkers of Staffordshire, and minor disputes also took place in the steelworks of South Wales and Cleveland. But, with all their anxieties, and notwithstanding low prices, ironmasters have been able to keep their establishments going, for there has never throughout the year been an actual want of work. It is difficult to say what the year upon which we have just entered may bring, but there is some justification for believing that there will be no actual want of employment, although rates will be unremunerative in some departments. The best that may be hoped for is that the year before us may not prove worse for the English iron trade than the one upon which we look back.

There is little to add with respect to the iron trade of the Continent. The past year has proved, if proof were required, that the English is still the ruling iron market, if not of the world, at least of Europe. Whether we look to Belgium, France, or Germany, the movements in the English iron trade are faithfully reflected in the markets of those countries, notwithstanding that the industries of the two latter are so fully protected by heavy tariffs. The markets of all three have been as depressed as that of England, the depression deepening, as here, towards the closing months of the year. The decline in prices there has been as heavy and as steady and uninterrupted as with us, notwithstanding that nearly all branches of the iron trade have been fairly well employed throughout the year. If an exception be permissible, it should be made, but only partly, in the case of Austria. The demand has been active in the Austrian iron trade, but prices have been kept in check, to some extent, by the successful competition of other countries, whose manufacturers were able, notwithstanding the prohibitive Austrian tariff, to throw large quantities of iron upon the Austrian market. The increase in those imports exerted a depressing influence, and led at last, towards the end of the year, to a decline in prices. Thus, in Austria, Styrian charcoal pig fell about 3 florins per ton on the year; Styrian bar iron, 8 florins; joists, 5 florins; steel rails, 6 florins. In Belgium, Belgian foundry pig receded 8 francs; bars, 12 francs; ordinary plates, 22 francs; steel rails, no less than 35 francs. The depreciation in value was equally serious in France,

where pig-iron declined 7 francs and manufactured iron 20 francs on the year. In Westphalia pig-iron was sold at the end of December 10 marks cheaper than it fetched in January; bar iron was 25 marks lower, and steel rails had been depreciated 12 marks.

With regard to the American iron trade during the past year, it need only be repeated what has already been referred to, that the check to the activity in railway construction in the United States had an immediate effect upon the American iron market. Values gradually became affected to a serious degree. Thus, whilst American pig-iron No. 1 sold in January at 24½ dollars to 25½ dollars per ton, it closed in December at 20 dollars. Naturally, Scotch pig-iron (of which 126,720 tons were imported into the States in 1883, against 146,868 tons in 1882) went down in sympathy with the American crude product. Steel rails were sold in January last at 40 dollars; they are now down to 34 dollars. So great has been the depreciation in some of the products of the American iron trade that a movement for closing works began in November, and although that step has been adopted by only a few manufacturers, its mere suggestion shows that the state of the American iron is, like that of Europe, far from satisfactory.

A BLOT ON OUR SANITARY MECHANISM.

A source of preventible mischief in the carrying out the details of sanitary improvement, as to which we did our best to call attention during the discussion of the legislative measures of 1872, has now come to the fore; and is under discussion in the daily press. Our own remarks and recommendations on the subject were generally applicable to the whole country, although it was rather the circumstances of the rural districts that were chiefly regarded in our anticipations. But it is as bearing on the burning question of the improving the dwellings of the London poor that, in the judgment of those of our contemporaries to which we refer, the shoe now chiefly pinches. The point in question is the position of the medical officers of health. Our anticipation was that in the rural sanitary districts, where the largest ratepayers might be expected to keep the key of the public till, and to keep it with the narrow care natural to those on whom the burden of supplying the contents were likely mainly to depend, the disposition of the Authorities to keep down expense might lead to a strong opposition to those recommendations of either the medical or the surveying officers of health which involved any serious expenditure that it was possible to defer or to avoid. How far this anticipation has been fulfilled it is perhaps not very easy to say. There can be little doubt that tendencies which are rooted in human nature itself must have had a powerful influence. On the other hand, the growth of the local expenditure has far exceeded anticipation, and is one of those points which reflective persons regard with no small anxiety.

The function of pointing out cases in which the neglected abodes of the poor become the seedbeds of disease is, it is urged, essentially that of the medical officer of health. Without admitting that this is exclusively the case, the statement is undeniably true in itself. But unfortunately, it is added, scarcely any of the medical officers in the metropolis are debarred from private practice, and the result is that their public and their private functions conflict with one another very seriously. In some cases, it is added, "some have frankly confessed that their hands are tied by the conditions of their appointment. Few are paid sufficiently highly to allow them a subsistence independent of practice, and all are removable at the pleasure of their masters, the Vestry, or District Board, without cause assigned." It is added that out of the fifty health officers of the metropolis, there are only three or four who devote their whole time to the performance of sanitary functions, so that districts containing over a quarter of a million of souls, and between 20,000 and 30,000 houses, have to content themselves with such time as the officer can spare from his private work. To this is added the difficulty which we originally pointed out. "How is it possible in a poor neighbourhood, where paying patients are rare, for the medical officer to treat with absolute impartiality the house property of the vestryman, who is one of his best patients, and who may, perhaps, have influence enough at the vestry to secure his dismissal from office if he makes himself obnoxious by his activity?" This sentence almost reads like a reproduction of one of our own, written in 1872. But we must confess that it has even a more terrible significance as applied to a poor urban neighbourhood than it had while the attention was fixed on a poor rural district.

The evidence given last year before the Select Committee on Artisans' and Labourers' Dwellings is cited as especially confirmatory of the existence of this blot on our health organisation. "I have known in my own parish," says Mr. Goddard, Chief Surveyor to the Metropolitan Board of Works, "houses to be destitute of water for a couple of years, and the man who was the owner to be sitting as a vestryman, administering the law of the parish." Again Mr. Goddard refers to the case of "a medical officer who, not so very long ago, was got rid of in very quick time because he discovered that some of the vestrymen held some of these houses, which were in a wretched condition, and he demanded certain alterations, which they did not think fit to carry out." It is really unnecessary to add any further proof of the results of leaving the medical officers in a condition of absolute dependence on the Local Authority.

By way of cure for these great evils, the *Morning Post*, in a thoughtful article on the subject, suggests the permanent appointment of medical officers, at a liberal salary, and with a practical fixity of tenure. That, no doubt, might be highly desirable; but whether it is attainable is another matter. The placing the power of appointment in the hands of some body more independent than the vestries is another suggestion, and so is the proposal that the dismissal of an officer should be subject to the veto of the Local Government Board. Our own suggestion, made at the time of the passing of the Act, was still more simple, and ten years' experience has not led us to doubt that it would be to a considerable extent effective. It was that every report, whether of the medical or of the surveying officer, should be sent in in duplicate, one copy to the Local Authority, and the other to the Local Government Board, or its appointed officers. The mere knowledge that the facts were laid before a higher authority would be enough, in many cases, to prevent the absolute ignoring of any report. On the other hand, the conviction that he was bound to satisfy his own superior officer, as well as his local masters, would give to the report of the medical officer something that it may now want. "How can I help reporting?" he would ask. "I may get into hot water myself if I hold my tongue." The proposal, which was laid before the framers of the Bill, was declined on the ground of tending to centralisation. It may be doubted whether that kind of centralisation which should induce or even compel local authorities to look with heed to the discharge of their proper duties would deserve to be regarded as an evil.

We do not now wish to insist that this mode of organisation is the only way in which the evil arising from the solitary and dependent position of the officers of health is to be remedied. Any simpler suggestion, if such can be made, will be welcome.

The fact is, that the expectations of the framers of the sanitary legislation now in force omitted one element in the problem that they had to solve. They betrayed an utter ignorance of human nature. To suppose that in a matter so new to most people, and so little credited by a very large majority, as sanitary improvement, improvised local authorities would guide their decisions by sanitary principles, or would turn a ready ear to the experts who should tell them what was required, was to credit the class of persons in question with a degree of information, to say nothing of any moral qualities, to which few often would lay claim. To suppose that the expert,—medical or other,—would sacrifice his time, and probably his place, to the effort to convince the board, was equally unwise. Spend, indeed, the authorities do, but in the utter absence of organisation, and of the means of informing one district what experience has been gained elsewhere, there is a great probability that much of the expenditure incurred by the local boards, prodigious as it has become, has been far from economical or wise. So marked have these evils become in London that the public are now regarding them with as much dismay as if they had not been the natural and predicted result of the disintegrated character of the machinery created by the Public Health Bill. That something will now be done, in the Metropolis, to remedy this mischief, is probable. The focus of public notice has been turned on the blot; but how much has the entire country suffered from the same cause? That is a question not easy to answer. One thing, however, is clear,—improvement is needed. How is it to be effected? Is it to be improvement in human nature, or improvement in the details of hasty and ill-advised legislation? It may, no doubt, be difficult to effect the former; but to await the latter is to do something that reminds us of the line of the Latin poet as to the rustic who waits till the river shall have run by,—

"Rusticus expectat dum defluat amnis."

COMPETITIONS.

Oldham Workhouse Schools.—In the second competition for these schools there were thirty-seven competitors, and the Guardians have awarded the first premium (50*l.*) to the design bearing the motto "Hope," and the second premium (30*l.*) to the design marked "F. S. A." The third premium of 20*l.* was awarded to "Faith." "Singularly enough," says a local paper, "the first and third premiums were found to have been secured by Mr. Alexander Banks, of Rochdale-road." The author of the second premium is Mr. Welstencroft, of Royton. The paper from which we quote speaks of the impartiality of the Guardians, but we do not gather that they were assisted by a professional referee. The sum which the Guardians were prepared to expend was from 9,000*l.* to 10,000*l.*; but according to Mr. Banks's estimate, the cost will be no more than about 8,400*l.* The tender which the Guardians had to face on the occasion of the last competition was 15,000*l.*, and one was even so high as 20,000*l.*

DECORATIONS AT WORTLEY HALL.

WE give this week an elevation, in chromolithography, carefully reproduced from Mr. Poynter's drawings, of a portion of the decoration carried out from his designs and sketches at Wortley Hall, the seat of Lord Wharncliffe, who is also the fortunate possessor of several of the more important of Mr. Poynter's pictures, including the well-remembered "Perseus and Andromeda." To this we have added a sheet in monochrome, traced from Mr. Poynter's pencil sketches, for the ceiling of the same room, and also a reproduction of one of his larger pencil sketches of the details of part of the frieze, the centre portion of one of the sides not shown in the coloured elevation. This, of which the original is merely a slight pencil sketch on tracing-paper, is an admirable bit of artistic work, giving in a most life-like manner the action of the bird in the endeavour to stretch its neck while preserving its balance on the swinging perch or hoop to which it clings.

The coloured plate represents the frieze of the central portion or lantern of the billiard-room, with an attic and windows over; the monochrome drawing represents one-quarter of the coved cornice and central ceiling immediately over the attic, the outside line of the border in the monochrome drawing coinciding with or rising from the top-line of the attic in coloured plate. None of the drawings and sketches which Mr Poynter was kind enough to lend us for illustration had any scale on them (painters are less particular in this matter than architects), and under these circumstances the chromo-lithograph has been somewhat reduced for the exigencies of printing, the object, of course, being to show the character of the design, not to give "working drawings," which the originals cannot be said to be in the ordinary acceptation. The centre line of the coloured elevation, compared with the centre line of the ceiling-plan, will easily point out the relation of the two to one another.

The coloured plate reproduces, we think, as far as mechanically applied colouring can ever do, the rich and harmonious effect of Mr. Poynter's scheme, and shows the playful manner of treatment adopted, as, for instance, in the treatment of the pilasters, the lower and upper portions of which are alternately contrasted; the system of alternation between gold and silver will also be noticed, in the dotting which takes the place of a modelled ornament at the lower part of the architrave,

the ornament round the windows, the treatment of the sides of the pilasters with silver, while the front face is lined with gold. This alternation of silver and gold is carried out in many parts of the ceiling design also. The main character of the decoration, it will be seen, is of that light and graceful, though certainly not very logical, character which marks one phase of the Renaissance school, and which has always been dear to painters and modellers on account of the opportunity it affords for the drawing or modelling of varied forms of flower and animal life, mingled together on little system or principle of decorative treatment, certainly, but presenting so many points of interest for close inspection, as well as a bright and festive general effect, and appealing to our artistic and historic associations as connected with and recalling one of the greatest and richest periods of art. There is, however, one portion of the design in which Mr. Poynter shows no Renaissance recollections but is solely himself, and that is in the charming and highly characteristic treatment of the stained-glass windows, which we feel sure will meet with the general admiration of architects. He has succeeded in producing a treatment quite suited to the condition of stained glass, quite original, and which yet does not seem out of harmony with the character of the rest of the work. Now, inasmuch as a true and suitable style for stained glass treatment in Renaissance architecture has never been worked out, as it has in Gothic, and can hardly be said to exist, we cannot but think that the treatment shown here ought to prove a very valuable bit of suggestion for stained glass design of an unobtrusive but truly decorative character.

In regard to the ceilings, which we are only able to show in monochrome, we may add a note or two on the colour treatment. The bold floral design, sweeping in such fine curves round the cove of the ceiling, is in gold on a deep blue ground; the wide plain fillet or soffit separating it from the centre is a plain band of gold; in the repeated ornaments gold and silver are alternately employed, and the key pattern consists of a gold pattern and a silver pattern interlocking with each other, the parallel lines surrounding it being also alternately gold and silver, on a deep blue. The band of ornament which comes within this is in gold and silver on a red ground, and in the centre portion the deep blue ground is resumed, the fan ornaments being gold, except the centres; the birds and plants silver.

The whole design bears testimony to Mr. Poynter's feeling for rich decorative effect in design of this class, and it has an additional value from the careful study and drawings of the birds and the floral details.

AN IRON CURTAIN.

IN the new Prince's Theatre, forming part of Mr. Phipps's new buildings in Coventry-street which we illustrated a few weeks since, special preparations are being made to check the spread of fire, in case of the occurrence of any such danger, to which theatres are so peculiarly liable. The proscenium-wall separating the stage from the auditorium rises from the basement and is carried right up through the roof, and the proscenium opening is entirely closed by an hydraulic fireproof curtain which, under the direction of the architect, has been constructed by Messrs. Clark, Bunnett, & Co. This curtain measures 32 ft. 6 in. by 26 ft. 6 in., and is constructed of two screens of wrought-iron plates, ¼-inch thick, forming a double division with an air-chamber between of 6 in. The top portion of the curtain is framed or riveted to double wrought-iron girders secured to the head of an hydraulic ram, fitted with cylinders on each side of the proscenium opening. The supply of water for working the hydraulic rams is laid on from tanks placed on the top of the building. With an expenditure of only 84 gallons of water the curtain, weighing about 7½ tons, can be raised or lowered in fifty seconds. The movement for working the curtain is in the prompter's box; and the prompter, by simply moving a lever, can drop the curtain, thus forming with the proscenium wall a solid fireproof division entirely separating the stage from the auditorium, so that in case of fire on the stage side the audience would be perfectly free from danger. On the stage, fire hydrants of the most improved construction are fitted, and connexions laid from the New River Company's mains.

"DESERTED."

"My tabernacle is spoiled, and all my cords are broken: my children are gone forth of me, and they *are* not."—JER. x. 20.

THIS terrible picture of the desolation which was to fall upon Jerusalem and the cities of Judah is one which must often have been witnessed in ancient times and even in the Middle Ages. In a previous chapter the Prophet uses the following expressions:—

"For death is come up into our windows and is entered into our palaces to cut off the children from without and the young men from the streets," showing that one of the punishments which was to fall upon the city was pestilence. When we read of ancient cities, such as Memphis, Thebes, &c., and think of their vastness, immense wealth, and magnificent buildings, one is inclined to ask, "And is London, with its 3,000,000 of inhabitants, to share the same fate?"

Fortunately for us, we do not labour under the difficulties which beset cities in early times, or even in the Middle Ages. Plagues of one kind or another were of constant occurrence. At one time it was the "black death" which depopulated whole regions; at another it was the sweating sickness which decimated the whole land; then last, but not least as to its terrors, the plague itself. We are, perhaps, too ready to blame our Mediæval forefathers for this state of things. We take it for granted that their towns were unhealthy, because they neglected sanitary precautions. That they were ignorant of many matters, such as the best mode of supplying water to towns, sewage arrangements, &c., must be allowed, but there is no reason to suppose that they neglected, as a rule, such precautions as they knew to be useful. It appears, however, from Erasmus that we English were behind the rest of the world in his time as to the sanitary arrangements of our houses. He says,—

"First of all, Englishmen never consider the aspect of their doors and windows; next their chambers are built in such a way as to admit of no ventilation. Then a great part of the walls of the house is occupied with glass casements, which admit light, but exclude the air, and yet they let in the draft through holes and corners, which is often pestilential and stagnates there. The floors are, in general, laid with white clay, and are covered with rushes, occasionally removed, but so imperfectly that the bottom layer is left undisturbed, sometimes for twenty years, harbouring expectorations, vomitings, the leakage of dogs and men, ale droppings, scraps of fish, and other abominations not fit to be mentioned. . . . I am confident the island would be much more salubrious if the use of rushes were abandoned, and if the rooms were built in such a way as to be exposed to the sky on two or three sides, and all the windows so built as to be opened or closed at once, and so completely closed as not to admit the foul air through chinks, for, as it is beneficial to health to admit the air, so is it equally beneficial at times to exclude it. . . . More moderation in diet, and especially in the use of salt meats, might be of service, more particularly were public ædiles appointed to see the streets cleaned from mud and urine, and the suburbs kept in better order." . . .

The very fact that Erasmus lays such stress upon these sanitary defects in our English houses and streets seems to show that they did not exist in other countries which he had visited. That the streets of Old London were excessively narrow, frequently less than 20 ft. wide, that shambles or slaughter-houses and hospitals were erected within the walls of the city in the midst of these narrow, closely-built streets, is proved by the fact that Sir Thomas More in his "Utopia" describes the Utopians as building all their streets at least 20 ft. wide! and placing all shambles and hospitals outside the walls of their towns! But in the Middle Ages these suggestions, however advisable, could not be generally adopted. A town had necessarily to be, before all things, strong enough to resist the attacks of an enemy besieging it. This, of course, in those days meant that it must be surrounded by high walls and a moat. The latter too often, from the very necessities of the case, was filled with stagnant water. Every inch of space within the enclosure of the walls was occupied by buildings. Then, again, we must take into consideration the difficulties of obtaining provisions; fresh meat during the winter months was scarcely procurable, few vegetables were known that would stand the winter's frost, and probably, none but the rudest methods of preserving fruits were practised. Their knowledge of medicines was a mixture of quackery and superstition. Some of the "cures" for the "sweating-sickness," for instance, were highly unscientific. Here is one of these marvellous nostrums:—"Take three large spoonfuls of *water of dragons* and a quarter of a spoonful of fine treacle of Geau, and half a nutshellful of *unicorn's horn scraped small!*" &c.* To this must be added the practice of burying the dead within the walls; but how was it possible to avoid these evils, and what chance had the unfortunate plague-stricken people of being cured of the terrible disorder when the doctors gravely prescribed "water of dragons" and "unicorn's horn scraped small!"

Siege was too often followed by famine, and the famine by pestilence, and then the grand old city declined, decayed, and in the end became deserted.

Is there not here a warning to our own huge city? Will not the words of Jeremiah, "Death is come up into our windows," apply to many a fever-haunted back slum of London? Does not, alas! disease "cut off the children from without," and the young men from the streets, in districts made loathsome and foul by grasping landlords and jerry builders? Think what would be the result if "the plague" or the "sweating-sickness" were to break out in London with its three millions of inhabitants! We cannot plead the excuses which our Mediæval forefathers were able to do. Our city is not necessarily crowded; it is not walled or moated. Abundance of wholesome food can be procured in the winter. We can obtain fairly good water in large quantities. Our dead are not buried in our midst, and the way of removing sewage is well understood. But even these comforts and advantages should not make us forget that morality and cleanliness have their laws, which cannot be disregarded with impunity, and if nothing is done to remedy the evils which the press is every day bringing to light at the East End of London, some terrible scourge in the way of sickness may break out, and London itself may become, if not absolutely deserted, decimated. Our illustration is a purely imaginary scene, intended to convey the idea of a Mediæval city which, after suffering the horrors of plague, has been entirely abandoned and left to fall to ruin.

H. W. B.

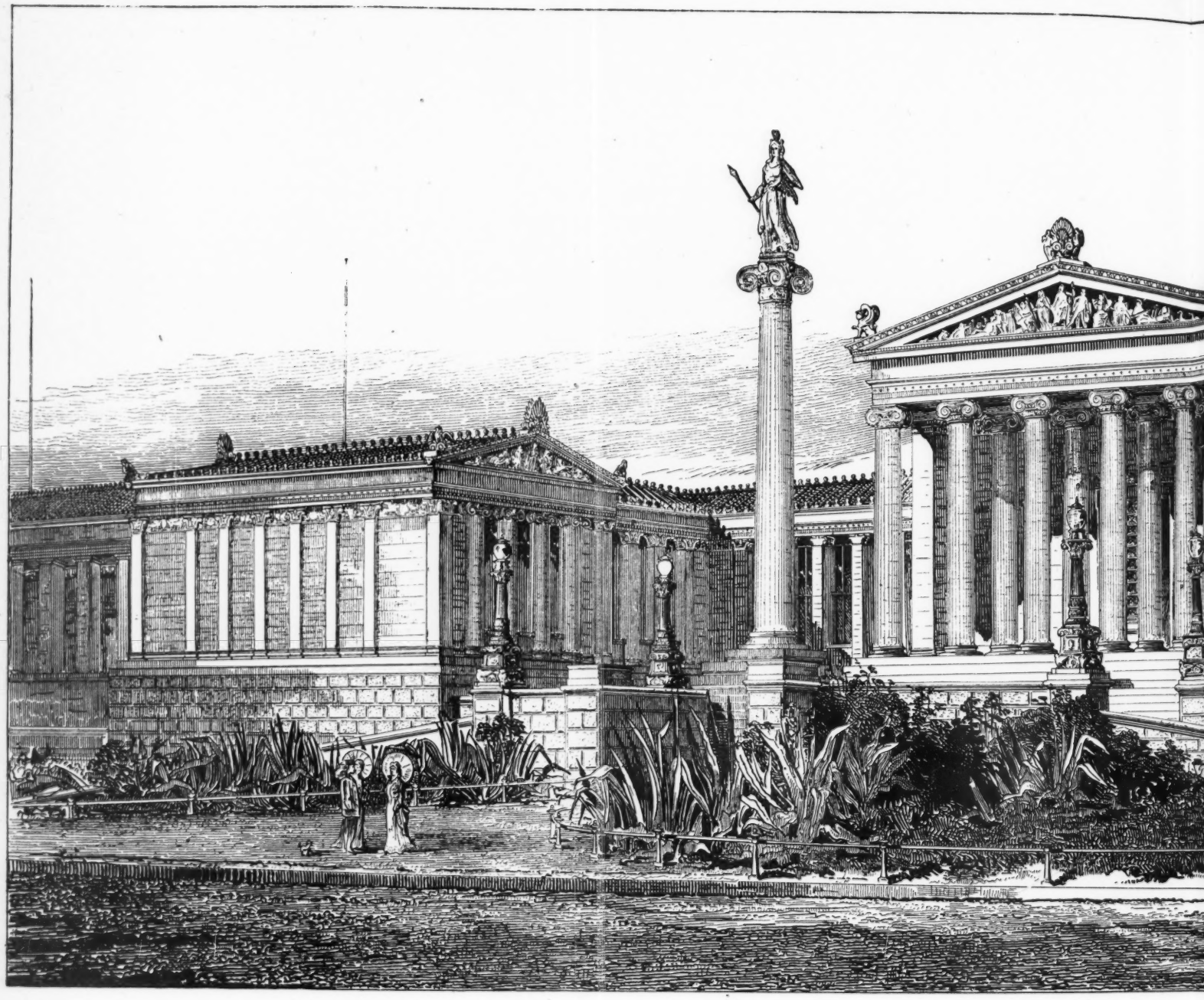
MODERN BERLIN ARCHITECTURE.

WE give views of two mansions forming part of the modern architecture of Berlin, in the Regenten Strasse and the Friederich-Wilhelm Strasse respectively. The latter may stand as a good specimen of the rather exuberant style of Renaissance architecture which appears not out of place as representing the luxurious side of the life of a great capital, though not certainly representing the higher elements of architectural force and expression. It errs, in short, on the side of being what must be called "showy" and deficient in breadth and repose, though not without a good deal of clever and effective treatment in detail. The house in the Regenten Strasse shows higher qualities of architectural design; the details are rich and elegant; the deep masses of shadow of the portal and recessed balcony over contrast forcibly with the light space of plain masonry; the sculptured bas-relief above the ground-floor windows is happily introduced, where such sculpture should be placed,—not too high up to be properly seen.

The views are engraved by Mr. J. D. Cooper, from photographs. We regret that up to the time of going to press we have not been able to obtain the names of the architects, which we may be enabled to give in a future issue.

The late Mr. Holloway's Gifts to the Nation.—Of the Sanatorium at Virginia Water and the College at Egham the following illustrations have been published in the *Builder*, viz., *Sanatorium*: Two-page view, vol. for 1877, p. 712; enlarged view of central portion of building, and plan of the whole building, vol. for 1875, pp. 645-47; view of interior of recreation-hall, vol. xlii., pp. 16, 17. *College:* View in East Quadrangle, vol. xli., p. 456. Mr. W. H. Crossland is the architect of both buildings.

* Appendix to preface, "State Papers of Reign of Henry VIII., by the Rev. J. S. Brewer," p. cclxxxi.



THE ACADEMY OF SCIENCES, ATHENS.——DESIGNED

THE ACADEMY OF SCIENCES, ATHENS.

WE issue with this week's *Builder* a view of the Academy of Sciences, Athens, the plans for which were designed by Oberbaurath Ritter von Hansen as early as 1859. Professor E. Ziller, of Athens, has been the superintending architect from 1861 to the present day. The building has been erected at the expense of a wealthy Greek, Baron von Sina, of Vienna, the total cost being 2,500,000 drachmas (100,000*l.*). After his death, the funds for its completion were supplied by his wife.

The substructure of the buildings is of Piræus stone, as used for ancient Greek edifices; the upper part is of Pentelic marble, and erected in the same style as the buildings of the Acropolis. The pediment of the centre building represents the Birth of Minerva. The column to the right of the centre portion bears the figure of that goddess, that to the left Apollo. The eight pediments of the wings contain scenes from the life of Minerva. The statues of Plato and Socrates will flank the geometrical stairs.

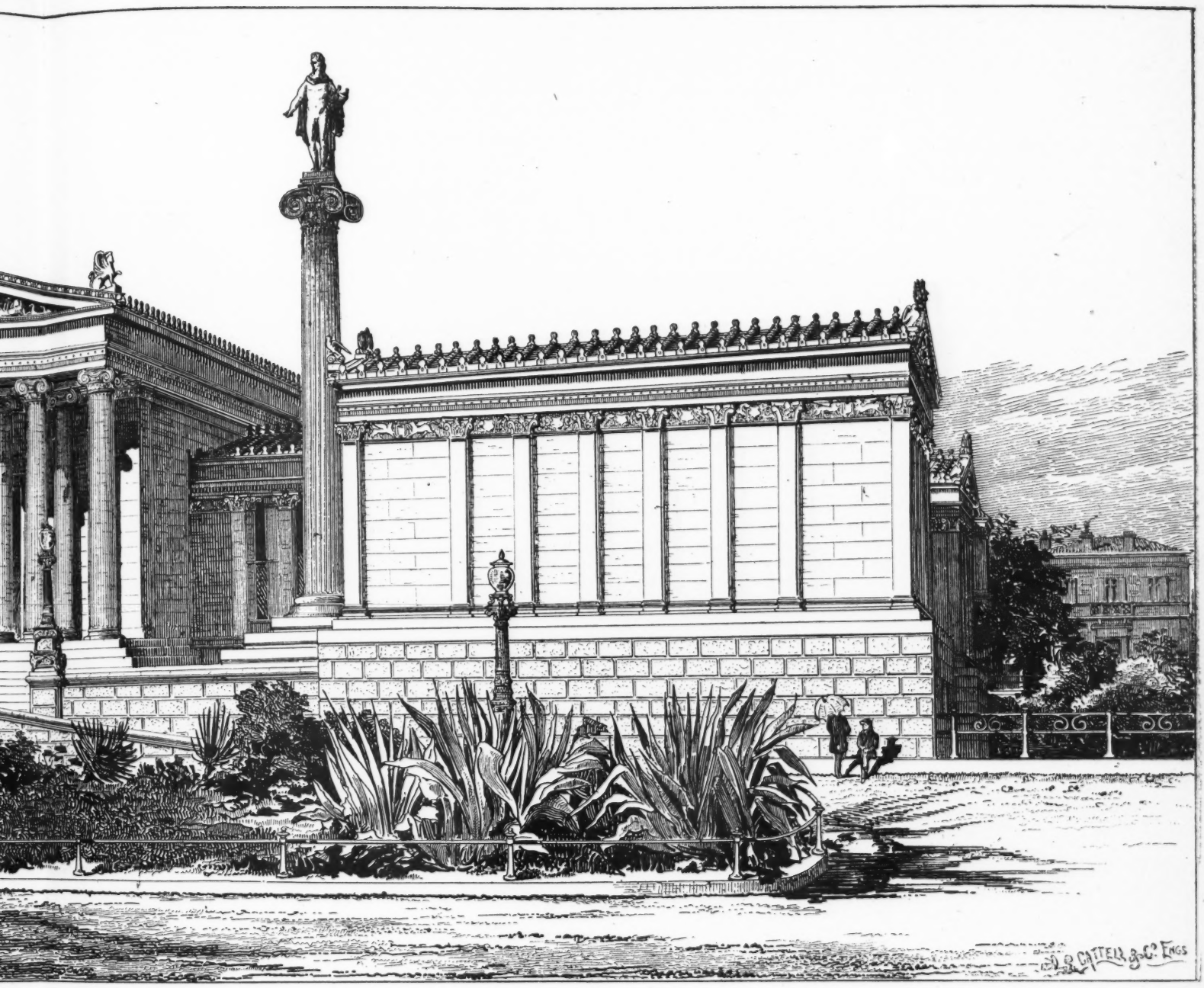
The aula is located in the principal story, and contains a series of eight large frescoes, representing the myth of Prometheus, as well as the bronze statue of the founder of the Academy, Baron von Sina. In the same story are also the library, lecture-rooms, &c. The basement contains offices. The colouring both of the interior and exterior is in imitation of that of the buildings of the Acropolis. The ground colour is gold; red, blue, brown, green, and black being subordinated to the principal colour.

The erection in modern Athens of a building for the pursuit of modern studies, in the style of the glorious past age of Greece, is an event in architecture that one cannot but regard with interest, whatever view may be taken by different people as to the advisability of thus interposing a modern revival of Greek architecture in direct competition with the original monuments. The experiment may be thought to be a hazardous one; but for our part we cannot help feeling a sympathy with the idea that on such classic soil an architect must feel a kind of necessity to be a Greek, and to do his best to touch even the hem of the garment, if one may so speak, of the architects of the Parthenon and the Erechtheion. Their shades, however, would hardly have approved the use of the large solitary columns with Ionic capitals, as pedestals for statues: a modern mistake in the use of the column which has been criticised often enough, and which we must regret to see repeated on Attic soil. The main grouping of the building is effective in its contrast between the colonnade and the masses of solid wall in the wings and the rusticated stylobate.

THE NEW THEATRE AT NICE.

(See Illustration in present Number.)

THE town of Nice has lost no time in seeking to repair the disastrous destruction of its theatre by fire. As the reconstruction of the theatre is not a private enterprise, but a municipal undertaking, the work was necessarily hampered by many formalities. Each detail had to be discussed and approved by the Municipal Council, and whatever extraneous advisers they chose to call in. Then, when all parties agreed to accept the plan and scheme of M. Aune, the town architect, every detail had to be forwarded to Paris and there submitted to the searching criticism of the Conseil Supérieur d'Architecture. This was done last June, but there were some details that did not give satisfaction. M. Garnier, the architect of the Paris Opera, objected to a sun-dial to which the Nicois had been particularly attached. There was something quaint about this sun-dial. It had been affixed to the back of the old theatre facing the sea and the south, and strollers on the Promenade du Midi could, during the winter, see what was the hour by means of this sun-dial. It was an effective way of demonstrating to the visitor the special privileges of the Nice climate, and enabled him to realise the exceptional amount of sunshine enjoyed during winter on the sea-beach. These were considerations which, however, failed to produce any effect in Paris. M. Aune wisely refrained from any semblance of resistance. On the contrary, calling all his assistance to his aid, they at once altered and re-made all the drawings. The sun-dial was consigned to limbo, and all M. Garnier's hints and suggestions carefully carried out. This was done without a moment's delay. In a few days the new plans were ready and on reaching Paris were



ESIGNED BY OBERBAURATH RITTER VON HANSEN, VIENNA, ARCHITECT.

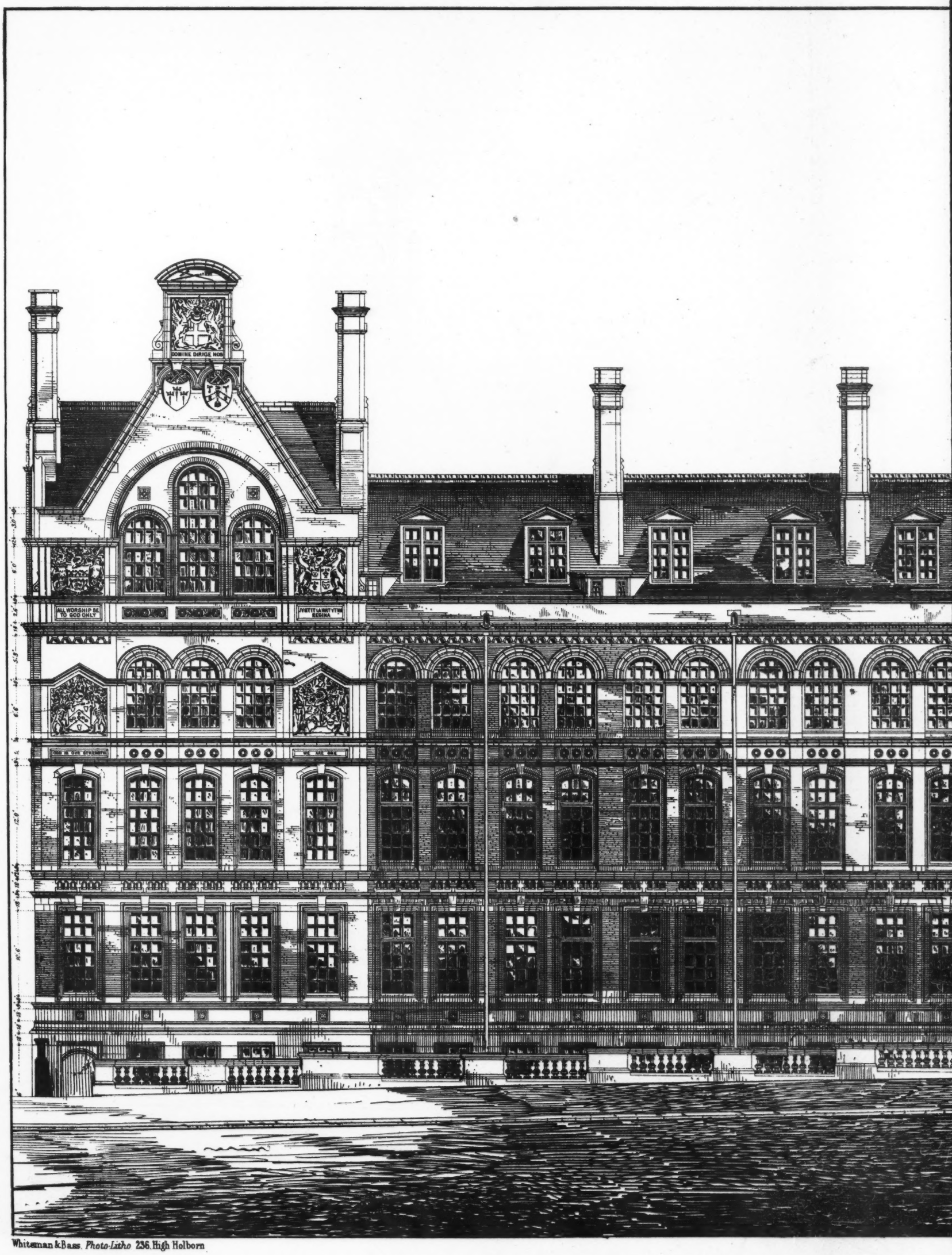
at once approved. The vote of the Conseil Supérieur d'Architecture was recorded on the 26th of June, and on the following day M. Garnier wrote a very complimentary letter to M. Aune, felicitating him on his success, and declared that hisproject was "*absolument bien!*" The works have now been begun, and hopes are entertained that they will be completed in time to open the theatre on the 1st of January, 1885.

The estimated cost, 56,000*l.*, is generally thought insufficient. It will probably not fall short of 2,000,000 francs, or 80,000*l.*; and, in Paris, an extra allowance was made for "the cost of direction"; a fact which M. Aune looked upon as at once gratifying and complimentary.

The new theatre will contain three rows of boxes, with an amphitheatre and a gallery above them. There will be seats for 1,500 persons without crowding, whereas the old theatre only contained 900 people, and, needless to say, the very greatest precautions have been taken to prevent a recurrence of the fatal catastrophe which ended the existence of the previous theatre. The gallery, the stalls, the boxes, in fact every part of the house has its separate entrance, and there is also a special covered way reserved exclusively for persons who have carriages. In thus diverting the stream of people, anything like a crush, it is thought, will be avoided. But improved means of escape are not considered a sufficient precaution. The entire structure will be fire-proof; that is to say, if it be indeed possible to make anything absolutely fire-proof. Nor are the authorities satisfied with measures that only affect the future. The other theatres at Nice are actually placed under the strictest surveillance. Only incombustible paper, scenery, and wood are allowed to be used. Before any new play, necessitating the employment of new scenery, is performed, the Town Engineer, M. Bérard, personally inspects every detail, and, with a lamp, tries to ignite the scenery. It is only after a practical demonstration, such as this, that the authorities give their sanction, and the public are admitted to see the play. Perhaps if the Lord Chamberlain in England were to organise a similar service, it would very materially add to the usefulness of his office.

The ordinary calcareous sulphate of limestone that abounds throughout the neighbourhood will naturally be taken for the great bulk of the masonry work. But few bricks are required. For the lower portions of the building, however, extensive use will be made of the very remarkably hard stone from Turbia, which takes a polish like marble and remains intact through centuries. It was with this stone that Augustus built the tower on the heights of Turbia to celebrate his victory over the Gauls. And this fine old monument was only destroyed in part by the hand of man. Time had left it intact, and its remains are still the object of admiration to all travellers on the Corniche road and the visitor to Monte Carlo. The delicate stone of Montpaon, a kind of freestone, will be employed where sculptural decorations are inserted. It is found principally in the Vaucluse and the neighbourhood of Arles. The columns will be of Verona marble, which has a yellow and reddish tint that matches admirably with the stones we have described. This same marble has been displayed to great advantage at the entrance of the new palatial office just opened at Nice by the Crédit Lyonnais. Finally we should mention that the ironwork, of which a large quantity will be required, because it is not inflammable, will be entirely of French manufacture. This is a fact of some importance, as the iron bought to build the jetty came from Belgium, and the same may be said with respect to the iron used for the new Casino, now also in course of construction. Nothing as yet has been decided concerning the internal decoration of the theatre, nor have any artists been selected to paint the frescoes. There is still time to think about such matters.

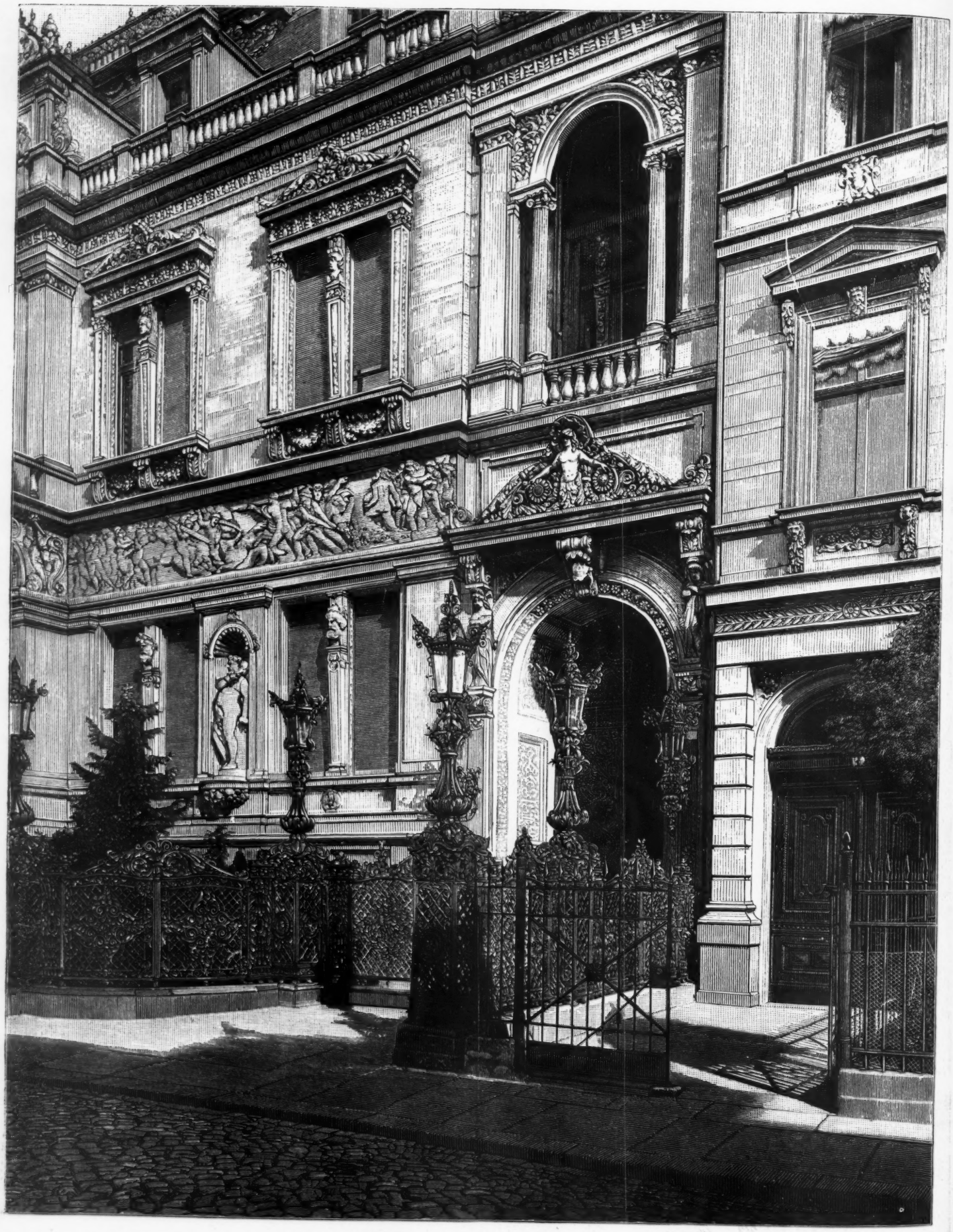
One very important point, however, has been neglected. This is the question of ventilation. There is no real plan, no scientific scheme, to give a proper supply of pure air. Numerous openings will be made on all sides, and doubtless a very good through draught could be created. But no one will endure a through draught, particularly the colony of invalids and delicate persons who frequent Nice. In such a town, and for a special public of this description, it was particularly necessary to contrive some means of gradual, imperceptible, but thorough ventilation. That this can be done, and done fairly well, has been demonstrated on more than one occasion; and notably at the Grand Theatre of Geneva. But it is not yet too late to make up for this deficiency.



Whiteman & Bass. *Photo-Litho* 236 High Holborn

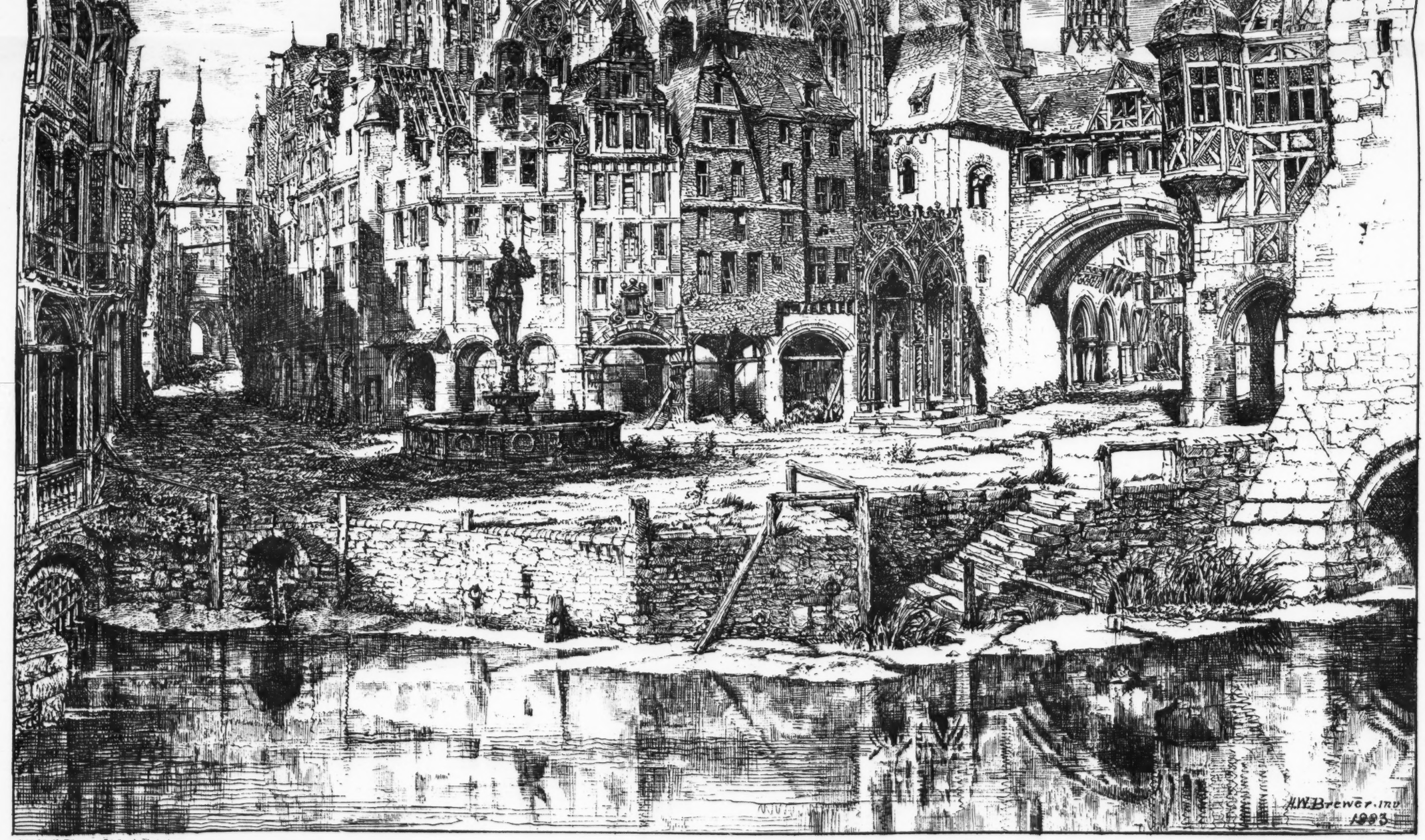
THE CITY AND GUILDS OF LONDON TECHNICAL INSTITUTION.——Mr. A. Waterhouse, A.R.A., Architect.

Wyman & Sons, Printers, 6 Queen St



MODERN STREET ARCHITECTURE, BERLIN.

IN THE REGENTEN-STRASSE.



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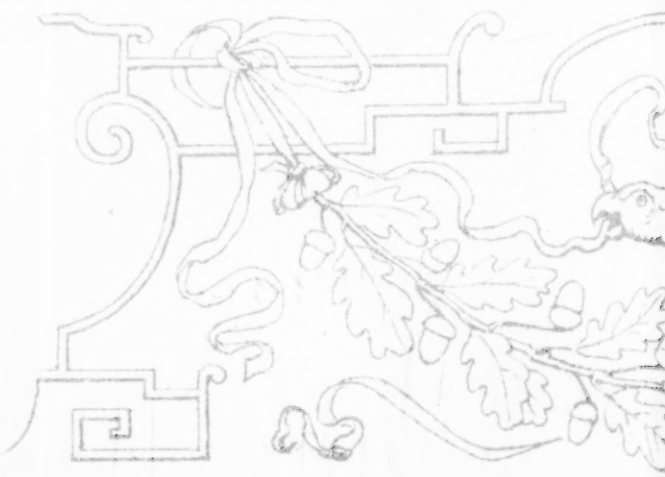
"Deserted"

"MY TABERNACLE IS SPOILED, AND ALL MY CORDS ARE BROKEN; MY CHILDREN ARE GONE FORTH OF ME, AND THEY ARE NOT."



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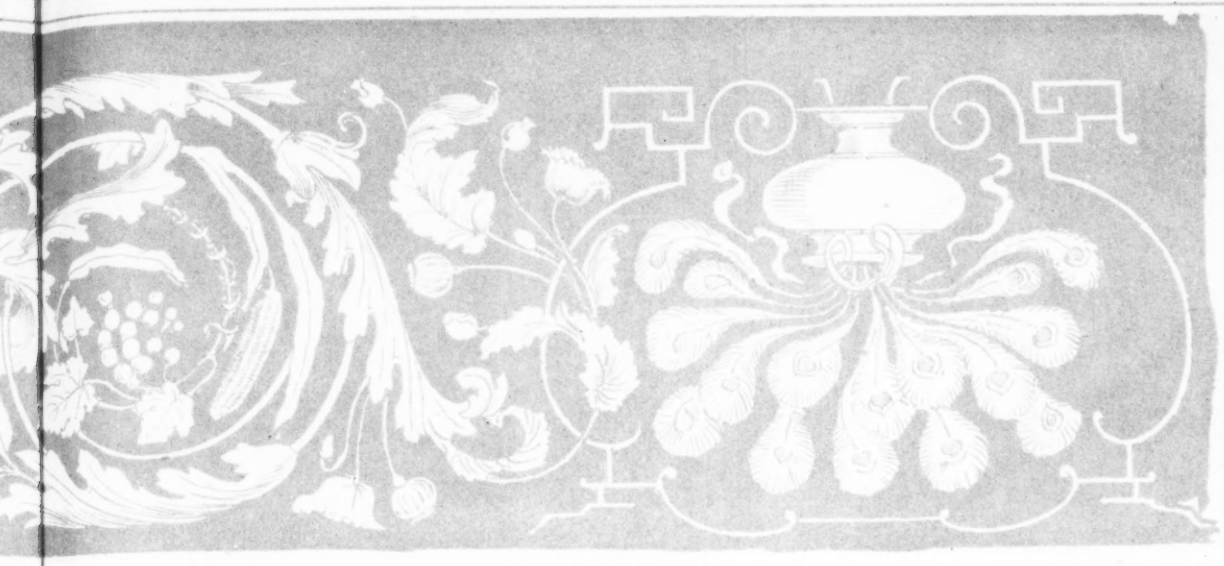


CENTRE OF FRIEZE
AT THE SHORTER SIDE OF THE ROOM.

DECORATIONS AT WORTLEY HALL,

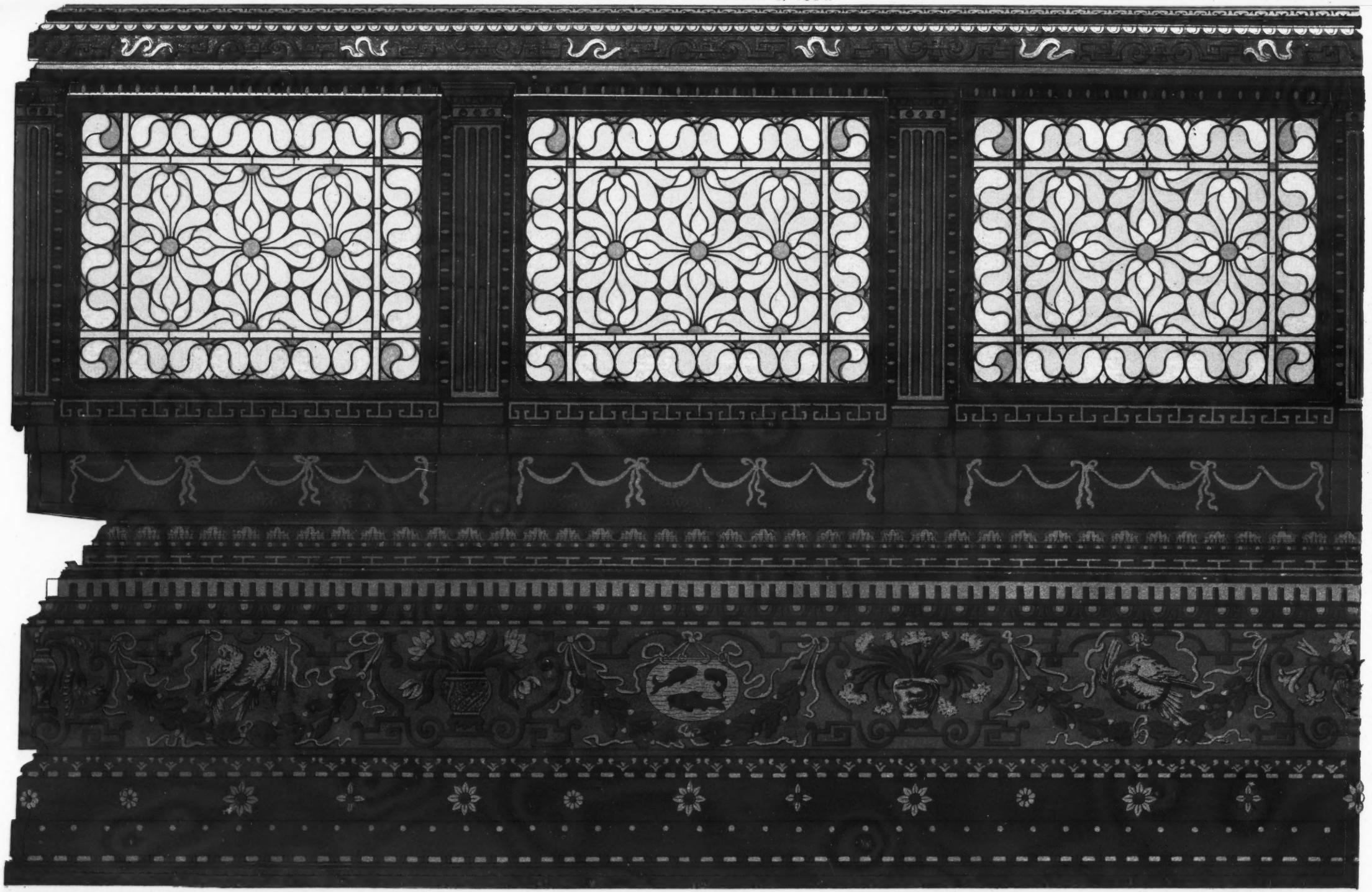
DESIGNED BY

MR. E. J. POYNTER, R.A.

COVE & CENTRE
OF
BILLIARD ROOM
CEILING.

FACSIMILE OF
ONE OF MR. POYNTERS
ORIGINAL SKETCHES.
PORTION OF FRIEZE.

E. Sandle Sc. Rathbone Place W.

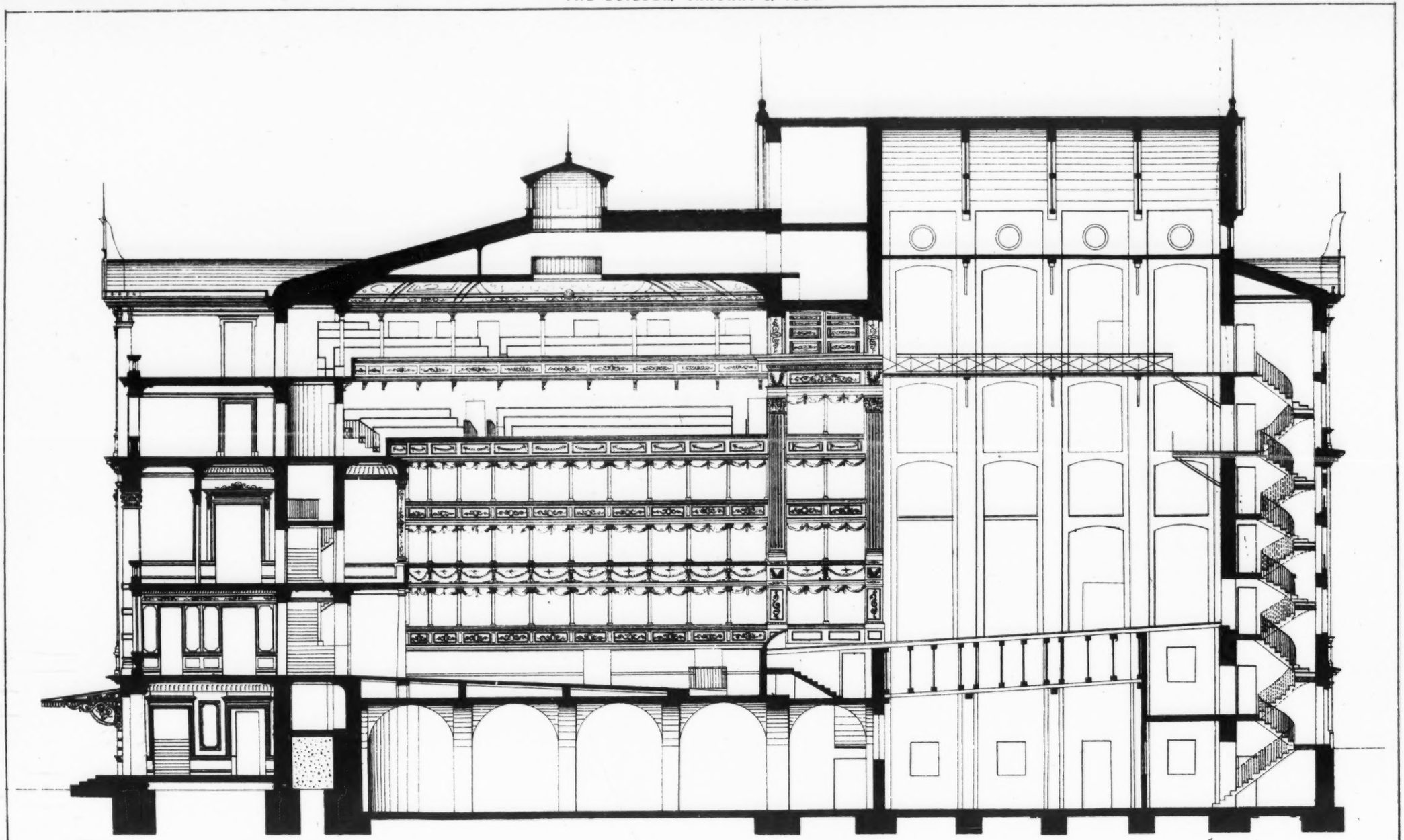


Vincent Brooks, Day & Son, Lith.

DECORATION IN BILLIARD-ROOM, WORTLEY HALL —By Mr. E. J. Poynter, R.A

MODERN STREET ARCHITECTURE, BERLIN

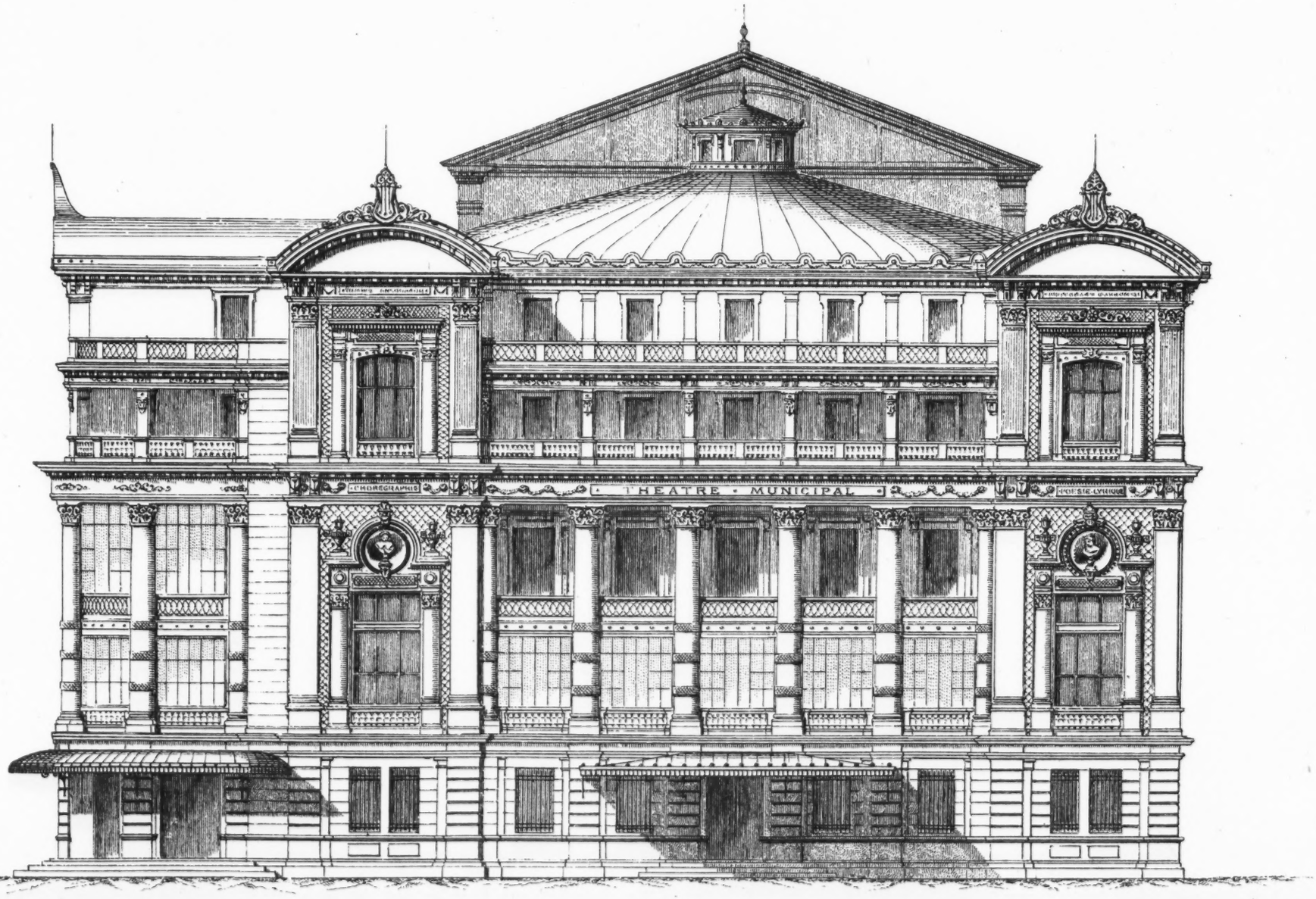
IN THE FRIEDERICH-WILHELM-STRASSE.



Vincent Brooks Day & Son, Photo-lith.

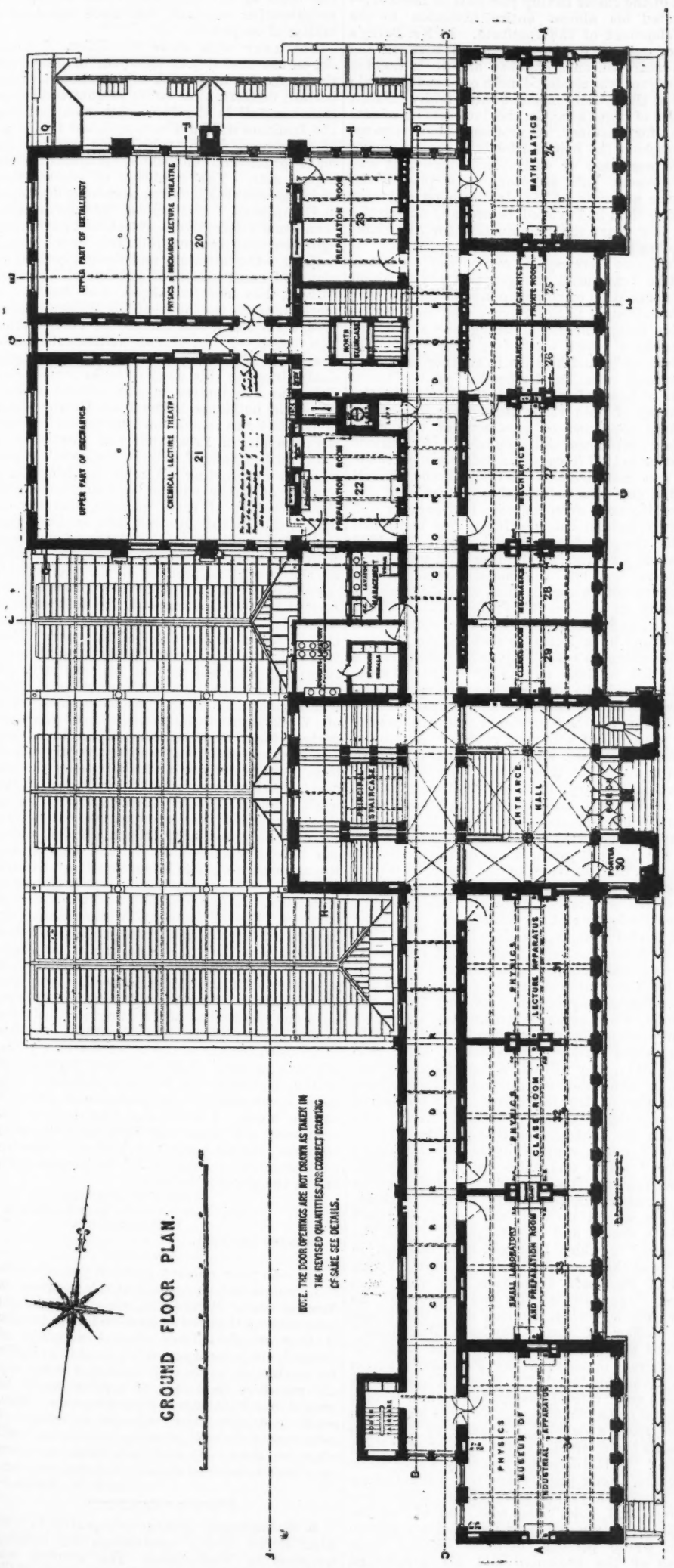
THE NEW THEATRE, NICE——M. AUNE, ARCHITECT.

SECTION.



Vincent Brooks, Day & Son, Lith.

THE NEW THEATRE, NICE.—M. AUNE, ARCHITECT.



THE CENTRAL TECHNICAL COLLEGE, SOUTH KENSINGTON.

THE City and Guilds of London Institute for the Advancement of Technical Education is to be congratulated on the near completion of its future headquarters. The foundation "column" was laid by His Royal Highness the Prince of Wales on the 18th July, 1881, the foundations having been put in by Messrs. Munday.

For 300 ft. the building fronts the Exhibition-road, on the opposite side to the South Kensington Museum, and closely adjoining the Natural History Museum designed by the same architect, Mr. Alfred Waterhouse, A.R.A. of London. The exterior is of a semi-classic character, freely treated, of red brick with red terra-cotta dressings, and derives additional interest from the arms of the principal manufacturing towns in the United Kingdom, wh are displayed in strong relief upon its fr These arms have been modelled by Mr. Ja Gamble. In the central gable, over the m entrance, is a Gillett clock striking quarters three bells, and indicating the hours on a gold mosaic face.

Internally the building is, for the most part, five stories in height. In the basement are mechanical workshops, three very large ones at the back being top-lighted. The entrance-hall is in the centre of the building, and the visitor ascends from thence by a few steps to the level of the great corridor on the ground-floor, which stretches from one end of the building to the other. Across the corridor is the main staircase, double arcaded between the flights to the top of the building, the piers, balustrades, &c., being of Burmantofts terra-cotta of a deep golden colour. Mechanical class-rooms, Physical class-rooms, a museum for industrial apparatus, and a room for the teaching of mathematics, are located on these floors. There are also at the back of the building two large lecture-theatres, lighted principally from the sides; one being for Chemistry and the other for Physics and Mechanics.

On the first-floor, over the entrance, is a large reading-room and library, with experiment-rooms and class-rooms on either side of it. The offices for the administration are towards the north-end of the building, terminating in the council chamber, a handsome apartment, on the walls of which it is proposed to emblazon the arms of all the livery companies. On the second-floor an art museum occupies the place of honour in the centre of the building, with class-rooms and lecture-rooms on each hand. The principal chemical class-rooms are over the large lecture theatres. On the third floor, above the art museum, is a large room, 67 ft. by 35 ft., with a fine semicircular roof, for museum purposes. At one extremity of the building is a lofty refreshment-room, for students and others engaged in the building, with kitchen, larders, &c., adjoining. At the opposite end is a large special laboratory, adjacent to the general chemical laboratories, which are over the chemical class-rooms. The corridors are, for the most part, paved with Stuart's granolithic material, but the entrance-hall and principal corridors on the ground and first-floors have marble mosaic pavements. There are dinner and coal lifts at one end of the building, and a large steam lift for bulky and weighty articles, such as machinery, at the other.

Internally the finishings are principally of deal painted, the fireplaces and chimneypieces being formed of glazed brick and stone. The heating and ventilating has been entrusted to Messrs. J. L. Bacon & Co., who have elaborated a scheme by means of which 700 cubic feet of fresh warm air per hour will be delivered to each person. The fresh air will be forced into the building by a powerful fan, and passing over steam-heating surfaces arranged along the back corridors, will then be carried by vertical flues to the various rooms, the amount of air and heat being regulated by valves. There are also special extraction flues both from the rooms and laboratories. The ironwork has been carried out by Messrs. W. H. Lindsay & Co. Mr. Henry Lovatt, of Wolverhampton, is the contractor, and Mr. T. Streeter the clerk of works.

To the general architectural style of the building we have referred more especially in our first article in this week's issue, on "English Architecture" at the present date.

"REFORM AT THE INSTITUTE OF ARCHITECTS."

SIR,—Your obliging correspondent, Professor Kerr, should be possessed, above all other things, of a retentive memory. Had he recalled the purport of some of his many communications to you on the "reform" of the Institute of British Architects, he would never have penned that unfortunate epistle which was printed in your last week's issue, and to which I now solicit space for a reply.

Amidst the mass of petty questions which the Professor puts to Mr. Barry and myself, there is one dominant query: Whether the promises offered by the modifications of 1876-77 have been realised, or what is really found to be the advantage derived from them?

The present system came into force at the annual election of the Council in May, 1877, when Mr. Charles Barry was re-elected president, when three vice-presidents were elected and placed in order of seniority, with fifteen ordinary members, and two secretaries, one honorary and the other paid. Since then a change has occurred annually. In 1878 only fourteen out of the original fifteen ordinary members of Council remained; in 1881 only ten; at the present moment only seven remain, as may be seen by a reference to the first page of the List of Members. Of those elected vice-presidents in 1877, not one remained in 1880; of those elected in 1880, only one remained in 1883. The Council, assisted by the past-presidents and the past-vice-presidents, did contain, in 1877, the foremost men of the profession; but, alas, the Avenger has done his work prematurely! Since that fatal year, Scott, E. Barry, Ferrey, Cockerell, T. H. Wyatt, Decimus Burton, Salvin, Mocatta, and Street have died. Mr. Pearson and Mr. Vulliamy have both retired from the Council on account of inability to attend to the work; but nevertheless its condition during the last six years, compared with what it was during the six years preceding 1877, has been one of astonishing and uninterrupted prosperity.

In 1876, the year Mr. Barry was first elected president, the Institute numbered 600 subscribing members: its total income for that year (exclusive of entrance-fees, which were then spent as income) was 1,545*l.*; its expenditure was 1,730*l.*, and, during the three preceding years, it had sold more than 500*l.* stock to meet current expenses. In 1879, when Mr. Barry left office, the Institute numbered 780 subscribing members: its total income for that year (exclusive of entrance-fees, which were then first ordered to be invested) was 2,529*l.*; its expenditure was 2,351*l.* Its capital in 1876 was 4,522*l.*; in 1879 it was 5,110*l.*; and, though more than 2,000*l.* were sold out in 1880 to pay for the building alterations, its capital at the close of 1882 was 4,330*l.* In the course of the last ten years the number of subscribing members has doubled, for in 1874 they amounted to 550, and in 1883 to 1,094. In the course of five years the circulation of the Institute publications increased from 750, in 1877, to 1,500, in the year 1882.

When I succeeded to the chair, the ordinary meetings, convened for the purpose, principally, of reading or discussing a paper on some subject of scientific, literary, or artistic interest, were occupied for three quarters of an hour, or even more (rarely less than half an hour) in what was called preliminary, or, as the Professor would term it, "parochial" business. The ballot for new members, the announcement of donations, votes of thanks, and desultory conversation on any topic that a fluent member might care to introduce, often ensued, so that men like my friend the late Sir William Siemens have been known to quit the meeting-room before the paper they had specially come to hear was commenced. This was remedied by the introduction of the present custom of devoting four meetings a session to such business, and thereby securing to the general body fixed opportunities for raising a discussion on professional matters and the affairs of the Institute generally. During my term of office the foreign members and societies, and the members of the Institute in India, the Colonies, and abroad, were first provided, post-free, with copies of the "Proceedings" and the sessional papers; and, at the present moment, the publications are regularly issued to some 1,500 people all over the world, the consequence of which has been a correspondence or exchange wider in its bounds, and more fruitful in results, than was ever the case in previous years; or at least since Professor Donaldson, who personally knew most of the great architects of Europe,—the last of the giants having just died in Lesueur,—devoted his almost entire attention to the development of the Institute. In Mr. Barry's time, and mine, the intercourse between the non-metropolitan architects and their London colleagues was rendered more easy and general; and at the present moment there really exists a means of organising, in the interests of education, for instance, a professional movement throughout the British islands, if such a course were necessary or desirable. Finally, it was the present paid secretary who placed the finance accounts of the Institute on a better footing than had existed before, and during the last few years the Examination for Associateship has become a fact.

Professor Kerr says, in one part of his letter, that he "can recall the gracious way in which the nomination of new members of Council was so contrived as to bring every man into notice in his turn," thereby affording him a mark of recognition which was "*duly beneficial to him in business*"; and he adds, in another part, that "the mere selection of office-holders has never been a bone of contention." I dispute the accuracy of both these statements, and I repudiate the kind of argument of which the former furnishes the premisses. At periods anterior to 1877 it was often difficult to persuade the best men to sit on the Council, and difficult to find any men to attend to the duties of the managing body even between half-past six and eight o'clock in the evening. Few knew this better than Professor Kerr himself. In 1875 he made an attack on the late paid secretary's outposts, but left the meeting-room of the Institute before the division, which recorded a minority of one on the Professor's side, was taken; and he had previously commenced operations by a letter he sent to the *Builder*, published on the 1st of May, 1875. He moved a resolution in 1869 to the effect that a committee should be appointed to inquire into the operations of the Institute and propose means for increasing their efficiency, and the resolution passed; but with what results? As for the geniality, interest, and attractiveness of the meetings of that time, I can only state that when, in January, 1869, the Professor read a paper on "The Architecturesque," there were about thirty members present. It was the night that poor Ashpitel's death was announced, and Sir Digby Wyatt was one of the audience, with Mr. Charles Barry in the chair. I do not remember that the proceedings were either attractive or interesting, or that the geniality of the Professor and his friends was greater at that period than it has since been. In 1862 the Professor headed a requisition for a special meeting, and in a good cause, but at the meeting itself several members who had signed the paper denied any intention of hostility to the Council, whose action was ultimately approved. Four years earlier, if my readers will kindly turn to the *Builder* of the 8th of May, 1858 (page 311), they will find a signed communication, in which the management of the Institute under Earl de Grey is denounced in unmeasured language by a certain "Robert Kerr," who records the existence at that period of "*a restrained and corrupted house-list, close-vestry system*," which was quite enough, he wrote, to account for the apathy then displayed by the members in the affairs of the Institute, and he wound up with the appeal,—"Don't make a desert and call it peace." Sir, the "desert," to which Professor Kerr referred in 1858 was the work of Nelson and Digby Wyatt, and of Professor Donaldson, the very men whose "*charming activity and enterprise*" he now recalls,—when Plancus was Consul, and the author of the "Newleafe Discourses" scolded the elders. In this matter of unconsidered opposition, the Professor's action has invariably been of a piece. I have never known any "reform" suggested by him to take a useful or an effective shape except one, which arose from a delightful creation of the Professor's brain familiar to the readers of "Newleafe." In the debating assembly where those discourses took place, there was a functionary of parochial proportions whose attire was "green and gold," and who was of stature sufficient to remove from the room any gentleman whose personal opinions differed from those of the chairman and his supporters. After 1877 an abridgment of such a personage was conspicuous at the door of the Institute, but his splendour, which endured for a brief period only, faded and ultimately collapsed, whether from the sallies of juvenescence within the walls of the Institute, or the malice of a neighbouring cab-rank, has since remained a matter of conjecture.

But away with these trivialities. Let me, sir, on the first day of this year of grace, ask the profession of British architects to look important matters, vital to its present and future interests, full in the face. Six months hence the Institute will have accomplished fifty years of existence, during which this country has made great and undoubted progress in the higher arts. The condition of ecclesiastical and domestic architecture has steadily developed and improved. But unless Rumour is more than usually deceptive,—unless the intermittent agitation that is now felt and heard means nothing,—the initiation and design, both as to plan and construction, of public and historical edifices, has not advanced, but has rather receded, since the days of Sir William Chambers, John Nash, and Sir James Pennethorne. The foolish,—I had almost written criminal,—disregard of Continental example has gradually brought this country to its present condition in the matter of the artistic control of public buildings. The First Commissioner of Works, by an anomalous compromise between the principles of Free Trade and Protection, is really at the head of a huge Architect's Office, engaged in erecting all over the kingdom a number of public edifices, and entrusted with the alteration of royal palaces, Government offices, the British Museum, and similar buildings; and openly competing, by word and deed, with professional architects. For the moment all the youth and promise of the profession is deeply engaged in a speculative competition, invited by the Government, the first stage of which is to be secretly adjudicated on, under the direction of the chief of this very Office, who will thus be judge and party in an identical cause, and who will appoint his own jury. In the second stage, ten professional architects will, for a consideration, present to H. M. Office of Works ten carefully-finished and complete designs for a large building, in the hope that "at least one architect" among the jury will at least recommend one architect among the ten competitors to superintend the execution of the work. Should events prove unfavourable, as they have more than once turned out before, there is only one body in the kingdom which can help British Architects, and that is the Royal Institute. The Royal Academy, even if it had the will, cannot help either sculptors or architects. At the present time it is a body of painters. Out of forty-one Academicians, only two are architects, neither of whom has taken the post hereditary to our calling, of treasurer, who, for the first time since the foundation, is a painter. Of the thirty Associates, only two are architects. Of the Academician-professors, only one chair, that of Painting, is filled; the chairs of Sculpture and Architecture, one unoccupied for three, the other for two, years, are both vacant. Only the Royal Institute of British Architects can help the profession, and, aided by an enlightened professional press, it can do much. I would say, therefore, to the architects all over the country,—Organise, Organise, but not against each other. Organise, gentlemen and colleagues, for the general good, and in the common defence.

JOHN WHICHCORD,
Past President of the Royal Institute of British Architects.

January 1st, 1884.

Sir,—In your current number you allude to the changes to be proposed at the Institute on Monday next. Would you allow me to inform your readers that the suggestion I have to offer is that of the fifteen elected members of Council, not more than twelve should be eligible for re-election, so that on the list of votes any old members in excess of twelve would be passed over in favour of new members. This, while it avoids "the enforced retirement of members of Council annually by rotation," will place on that body each year three members who have not served during the previous year.

LACY W. RIDGE.

A Submerged Forest is reported to have been found during excavations for building purposes in Washington. The stratum was found to underlie the quaternary gravels of the district.

THE HOMES OF THE POOR.

THE author of the Artisans' Dwelling Act of 1875 (Sir R. Cross) contributes to the *Nineteenth Century* for January an article on "The Homes of the Poor," in which he expresses gratification that Lord Salisbury's recent contribution to the *National Review* (commented upon in the last volume of the *Builder*, p. 577) has roused general attention to this important subject. The questions to be solved, he observes, are these:—(1) How to prevent the further growth of the evil of unsanitary dwellings; (2) how to insure that properly built houses are kept in a sanitary condition; (3) how to get rid of old slums; and (4) how to do all this without pauperising and so demoralising the poorer classes. On the first of these heads he suggests increase of powers to the metropolitan authorities; and, on the second, he observes that:—

"The principle is clear that as an owner is not allowed to build unsanitary houses, and is held responsible for their being properly built, so also has Parliament a right to call upon him if he wishes to let houses as human habitations, to see that they are maintained in a fit state for habitation. The existing law seems clear enough on this point, and it is at present more a matter for administration than legislation. What is required is more constant and more persistent administration of the existing laws by the local authorities, urged on as they must be by the several departments who, in their turn, will require all the assistance that can be given by a wholesome public opinion."

With regard to old slums, Sir R. Cross thinks the Acts of 1868 and 1875 should have a fair trial before anything further is attempted in the way of legislation. Lastly, as to the question of building houses which should be commercially remunerative, and the rents of which should not pauperise the poor classes, Sir Richard observes:—

"It may seem hard to say it, but taking the normal condition of things in towns and cities, without danger of great social evils, the matter must be left to the ordinary rule of supply and demand, to the regular administration of the Poor Laws, to the assistance of such loving hearts as that of Miss Octavia Hill, and to the opportunities offered by the Peabody Trustees and the several industrial dwelling companies, &c.; but the matter may, to a certain extent, be different in those cases in which you are not dealing with such a normal condition of things, but have to grapple with the accumulated evils of many generations. Then, unless you provide some temporary relief, by pulling down and by turning out you will create greater evils than those which you propose to cure. You must not force on overcrowding; you must not drive to the workhouse; you cannot leave these people in the streets. Nothing remains but that, for a time at all events, some house accommodation for families, something like the Glasgow lodging-places for single people, should be temporarily provided. I say temporarily, for no one would wish such places to continue longer than is necessary for the people themselves to find their own more suitable accommodation elsewhere, or, what is far better, to be educated out of them. The charitably disposed may here step in, and it is only in the very last resource that the local authorities should be called upon to take any such steps, but they may be called upon, at all events, to render every assistance in their power to induce others to step in."

THE DWELLINGS OF THE LONDON POOR.

ON the 28th ult. a meeting of the Central Committee formed at the recent conference at the Mansion House on the subject of the condition of dwellings of the London poor was held in the Venetian Parlour. In the unavoidable absence of the Lord Mayor, Mr. Alderman Cotton, M.P., presided.

It was unanimously determined that with the view of giving practical effect to the wishes of the recent conference a general council should be formed, of which the Lord Mayor should be the president and the treasurer, the Archbishop of Canterbury, the Marquis of Salisbury, and the Earl of Shaftesbury, vice-presidents; Mr. John Simon, C.B., Dr. Sedgwick Saunders, and Mr. Shirley F. Murphy, honorary medical officers; Messrs. Freshfields and Williams, honorary solicitors; and Mr. John Hamer, honorary secretary, and consisting of a large number of ladies and gentlemen interested in the question. The object of the committee would be to assist the authorities to put in force more effectively and generally the existing Acts which bear upon the sanitary condition of tenement houses, and to promote the construction of improved dwellings, where necessary, at rentals within the reach of labourers and others, it being an important element in all such improved dwellings that proper arrangements be made for careful supervision and control. The committee would also take special cognisance of the necessities for further legislation as they arose, and take steps for the furtherance of the same. To carry out those objects the meeting established two executive committees,—one to examine present legislative Acts affecting the condition of the poor, to watch Parliamentary action in connexion with the same, and to take such steps as might be necessary from time to time to promote the objects of the committee; and the other to establish local committees throughout the metropolis, and to assist the sanitary and other authorities in the performance of all duties relating to the improvement of the moral and physical welfare of the poor.

These committees having been nominated, it was further determined to establish a fund for defraying the necessary expenses in connexion with the work, to be called "the Mansion-house Fund for Improving the Condition of the Dwellings of the London Poor," and it was intimated that donations, of which a good list was made in the room, might be sent at once to the Lord Mayor. It was also determined to memorialise the Home Secretary and the President of the Local Government Board on the subject, the points noted being the expediency of such amendment in the law as would prevent the burden of sanitary improvements and the cost of improving the dwellings of the poor becoming a charge on local rates or on any one class of the community; the necessity of more efficient execution of sanitary Acts, and the formation of sanitary aid committees, with a view to obtaining voluntary assistance in carrying out the law; the making many of the permissive powers compulsory, especially in relation to houses let in tenements; the relieving of sanitary officers of the difficulties attaching to their office through the influence of owners of insanitary property on local boards; the increasing of facilities of boards to acquire all interests in property not in a sanitary state at such a cost to the rates as would enable the sites of such property to be sold without loss; the granting of Government loans on easier terms; and the providing for the compensation and more immediate housing of ejected tenants.

AN IMPROVED FORM OF SILO.

WITHIN the last two or three years the value of ensilage as food for cattle and horses has been brought prominently before the agriculturists of this country. A silo is merely a pit sunk in the ground and lined with concrete or other material so as to render it air and water tight; or it may take the form of a large bin or receptacle enclosed by walls rising above the ground level. Into this receptacle grass or any other green crop is thrown as soon as cut, and covered with planks laid edge to edge and weighted down with stones, bricks, barrels of earth, or other heavy substances. The object of this weighting is, of course, to compress the crop and to drive out the air, so that fermentation shall not be set up, for if this occur the ensilage is rendered useless. Obviously this method of weighting down the covering of planks on top of the crop is very primitive, troublesome, and laborious, for every time the planking has to be removed, either for adding to or taking from the contents of the silo, the heavy materials with which it is weighted have to be taken off by hand labour, and this is a work of time and expense. It has been sought to get the required pressure on the platform by means of levers, screw presses, and other contrivances, but hitherto, so far as we know, without success, the extent of the area to be compressed rendering it difficult, if not impossible, to get in this way the pressure required (from 100 lb. to 200 lb. per superficial foot), distributed evenly over the whole of the surface, without complicated and costly overhead arrangements, the expense of which would probably only be equalled by their cumbrousness and liability to get out of order. Seeing that ensilage is likely to claim the attention of farmers generally, not only from its value as a cattle-food, but because silos afford a ready means for saving green crops, it is satisfactory to note that a simple means of compressing the ensilage has been devised by Mr. Thomas Potter, of Alresford, Hants, who is already known to many of our readers who have studied the subject of concrete building, as the inventor of what are called "Potter's slabs" for facing concrete walls. Walls built in this way are admirably adapted for silos, whether sunk or above the ground. However, into these or any other walls, Mr. Potter builds wrought-iron channel standards, which have strong iron fangs riveted to them every 6 in. apart, these fangs serving as the points of resistance to the claw of a specially-constructed portable hydraulic jack. When the covering-planks (the best dimensions for which are 7 in. by 3 in.) are in place, transverse timbers, 11 in. by 7 in., are placed across them, with their ends abutting on the channel iron standards. The hydraulic jack forces down the ends of these transverse timbers one by one, and they are then wedged or keyed down to the required position. Of course the pressure can be increased from time to time (as required by the shrinkage of the crop) by merely applying the jack to each transverse timber for a moment. When it is desired to remove the planking, the jack is as readily brought into play so as to release the wedges. We understand that three silos on this principle have been built on Lord Ashburton's estate at Alresford, and that these have been so successful that two more are to be built. Mr. Potter says that the best width for silos is 11 ft.; they may be any length.

Messrs. F. W. Reynolds & Co., of Acorn Works, Edward-street, Blackfriars-road, are the makers of the channel irons and jacks in question, and they have on their premises a silo fitted up with them. While there, we had an opportunity of seeing another useful invention, viz., Rainbow's Patent Steam Water-raiser, which, with a pressure of steam of about 1 lb. per square inch per foot of lift, will send up about 900 gallons of water per hour through a 1-in. pipe. For workhouses, infirmaries, and other large institutions where steam power is employed, and for manufactories, the invention affords a ready means for filling cisterns in the roof.

WAYGOOD'S HYDRAULIC-BALANCED PASSENGER LIFT.

MESSRS. R. WAYGOOD & Co., of Falmouth-road, Newington, have lately patented a hydraulic-balanced passenger-lift which has some good points to recommend it, and which we have seen in action at 39, Lombard-street and at Eastcheap Buildings. The lifts are smooth in working, and easily controlled by the attendant; they are free from balance-weight, chains, and overhead sheaves, and consequently the weight of the cage rests always and entirely on the ram. But the raising of the entire weight of ram, cage, and passengers would involve an expenditure of power altogether out of proportion to the useful work performed but for the means here adopted of economising the power. If, for example, the passengers weigh 10 cwt. and the cage and ram 30 cwt., three-fourths of the power exerted would be wasted unless it could be returned to the accumulator, and this is what is done in the case of the lifts we are now noticing, the water employed in raising the dead weight being used over and over again, thereby saving water and reducing the cost of working. In connexion with the accumulator are hydraulic pressure pumps of an improved form, made by Messrs. Waygood & Co., and worked by an 8-h.p. Otto gas-engine in the basement, the gas-engine being also used, in the case of the Eastcheap building, for driving dynamo-machines for the electric light.

KUHLMANN'S CEMENT-TESTING MACHINE.

WE have had an opportunity of seeing in action, at the office of Mr. A. H. Kuhlmann, of 23, Great St. Helen's, a new machine for testing the tensile strength of cement. It is very compact and simple in action. Upon a dwarf column of cast-iron, 16 in. high, are fixed two levers, the leverage of the upper and longer one being 1 to 10, and that of the lower and shorter one 1 to 5, so that a total leverage of 1 to 50 is obtained. The levers are so adjusted on knife-edges as to reduce the element of friction in working to a minimum. The upper lever is fitted with a sliding weight for securing the correct positions of the levers, and on the lower lever is fixed one of the clamps for holding the briquettes, the other clamp being attached to the bed-plate of the machine at the base of the dwarf column

before mentioned. The briquette to be tested being adjusted in the clamps, a small bucket or tin pan is hung on the long lever, and into this receptacle fine shot is allowed to run slowly from a self-acting shot-run fitted beside the apparatus. The breaking-strain being exactly fifty times as great as the weight of the bucket and shot the result can be at once seen by placing the bucket with its contents on to a scale at the back of the machine, a dial below the scale-plate indicating not only the weight of the bucket and shot, but the breaking-weight at which the briquette succumbed.

BUILDING PATENT RECORD.*

APPLICATIONS FOR LETTERS PATENT.

5,825. J. Shanks, Barrhead. Water-closets. Dec. 21, 1883.

5,834. G. Howard, Cricklewood. Mode of fixing flooring. (Comp. Spec.) Dec. 21, 1883.

5,870. W. Ross, Glasgow. Automatic drain-flushing apparatus. Dec. 27, 1883.

NOTICES TO PROCEED

have been given by the following applicants on the date named:—

Dec. 25, 1883.

4,094. W. Thompson, Wexford. Walls for fences, buildings, &c. Aug. 24, 1883.

4,150. G. Connell, Newcastle-upon-Tyne. Window ventilators. Aug. 28, 1883.

5,493. F. Leslie, London. Chimney cowls and ventilators. Nov. 23, 1883.

Dec. 28, 1883.

5,834. G. Howard, Cricklewood. Mode of fixing flooring. Dec. 21, 1883.

ABRIDGMENTS OF SPECIFICATIONS,

Published during the week ending December 29, 1883.

2,238. G. Nobes, London. Domestic fire-escape. May 2, 1883. Price 6d.

The ladder is made of rope with rigid rungs, and is kept coiled up round a revolving drum mounted in a box, which may form an article of furniture.

2,260. T. Wood, Bristol, and G. Milton, Stapleton. Hot-water heating apparatus for warming buildings. May 3, 1883. Price 2d.

The furnace is of semicircular shape, and in the upper part are hollow end-pieces, into which water tubes are fitted, and from which the circulating pipes are led. (*Pro. Pro.*)

2,282. T. J. Constantine, London. Open fire portable cooking-range. May 4, 1883. Price 6d.

The bottom bars are arranged to vibrate so that the packed fuel can be disturbed, and the ashes caused to fall. A flap valve in the passage to the chimney regulates the draught. The front bars are vertical, of a curved form, and tapered in cross section.

2,305. S. Fisher, London. Manufacture of wall coverings. May 7, 1883. Price 2d.

Linen, &c., is saturated with hot oxidised oil, or with collodion and sulphur, then pressed and hung in a hot chamber to dry, where it is vulcanised. A suitable face is then made on it with oil and ground cork, which face is painted and printed.

[2,321. B. Hess, Bayreuth. Manufacture of artificial stone for various purposes. May 8, 1883. Price 4d.

Serpentine, soapstone, feldspar, mica, quartz, and clay are pulverised and mixed with water, and then formed into the shapes required.

3,446. G. Howard, London. Manufacture of marquetry, parquet for flooring, &c. July 13, 1883. Price 2d.

The desired pattern is cut out of a thin laminæ of wood, and then the part that is desired to be darker than the natural colour of the wood is subjected to the fumes of ammonia, and then replaced.

Accidents.—On the 27th ult., an alarming accident occurred at the bridge in course of construction for the Caledonian Railway Company over the Forth and Clyde Canal at Port Dundas. A number of men were engaged at a crane by which a heavy stone was being raised on to the bridge when the connecting pin of the crane slipped out, and the whole of the heavy apparatus fell upon the men at work. A labourer named Phillip Reilly had his left leg fractured, and received other injuries of a serious nature. Michael Trainer, a labourer, and a foreman named Nicol Miller, were also injured. The occurrence has been reported to the Master of Works.——On the 28th ult., two houses adjoining each other in Parliament-street, Dublin, fell down. Fortunately no one was injured. One of the houses had been condemned as unsafe.

* Compiled by Hart & Co., Patent Agents, 186, Fleet-street.

IRON AND CONCRETE.

SIR,—I have been a user of Portland cement for nearly forty years, and may, I think, claim to know something about its behaviour.

I differ from your correspondent, Mr. Faija, in the *Builder* of the 15th ult., as to the value of iron in a state of tension in combination with concrete for the formation of beams, floors, &c. A beam of concrete resting on its ends without a firm and unyielding abutment is a thing not to be depended on to carry much more than its own weight; but with a firm abutment and suitable depth of section it will carry a good load, with a wire rope or ropes, or with iron in any cheap form, such as the old tyres of wheels, firmly embedded in the concrete and forming a curve (with the ends close up to the upper surface of the beam at the ends, and dipping down in the centre to near the underside), it will carry safely a very heavy load, and will not yield until the iron begins to draw. If wire rope be used there will be considerable elasticity without damage, as the beam, if cracked, either by impact or dead weight, will spring up when the load is lessened. After the beam has cracked, the upper line is in a state of compression, and the wider the beam, of course the greater the power of resistance. A thick concrete floor so constructed may be considered as a number of beams united together, each receiving support from its neighbours, and exceedingly strong. The iron, however, should be curved, not straight; a straight rod of iron has not much supporting power, even if held firmly at the ends; it has a great deal when bent and embedded in a rigid material like concrete. There is sufficient adhesion of the concrete to the iron to prevent its drawing, but a precaution may be taken by beating up the ends a little, or, if rope be used, by twirling the ends.

In 1855 I took out a patent for fireproof construction on this principle, and included concrete arching. Previously to doing so I made some experiments to test the bearing-power of old wire rope, which is plentiful and cheap. I made a beam, 21 ft. long, 16 in. wide, 1 ft. 1⅜ in. deep, composed of plaster of Paris, a little lime, chopped straw, and coke, with a wire rope, about 1 in. diameter, embedded as above described. I first tried its strength at a bearing distance of 18 ft. 6 in. It deflected with its own weight about ⅛ in., and with two men on the centre there was a slight increase; with nineteen men standing as near the centre as possible it went down 1½ in. The span was increased to 21 ft., and a load of 3 tons put on, causing an additional deflection of $\frac{3}{32}$ in. In five days this had increased to ¾ in. On removing this load it ascended ½ in. Four tons were then put on the centre and allowed to remain a month, when the deflection had increased to 1½ in.; on taking this off it ascended 1 in. The beam was at last entirely broken down, the rope being torn asunder with 5¼ tons. This was conclusive as to the bearing-power of the rope. I also experimented with some small beams of plaster of Paris. One, 3 ft. long, 4 in. deep, 1¾ in. wide, with a piece of iron wire, bent to shape, and slightly turned at the ends, distance between points of support 2 ft. 7½ in.; it bore 4 cwt. in the middle with a deflection of $\frac{5}{16}$ in. A piece of Memel timber, of exactly the same size, made the same deflection with the same weight. This little plaster beam, without iron, would probably not have borne 14 lb. Good concrete would, of course, after a month be much stronger than the beam of plaster, and an additional rope would have given much better results.

W. B. WILKINSON.

SIR,—I do not wish to trespass on your space, but I think a reply is demanded from me to your correspondents in your last week's issue. I will, however, be as brief as possible.

It is not necessary for me to explain to Mr. Thwaite and to your readers that with say 30 lb. of iron instead of that used in the composite girder which Mr. Thwaite quotes, an iron beam could have been constructed which would have the same strength. As, therefore, it requires something over 6 cwt., or say 700 lb. weight of concrete, to supply the place of say 20 lb. of iron, I really am bold enough to say that the concrete in this instance is out of place and useless.

It is unnecessary to allude to the proposed formula, as it seems to me that the value of K must depend entirely on the amount and disposition of the iron in the beam.

Mr. Potter alludes to the vibration of concret flats. I regret to say that this matter has been brought very prominently before my notice. I happen to have a concrete flat supported on ordinary 9-in. joists over my nursery, and there is undoubted vibration in this roof; at the same time, it is not possible to observe any cracking or breaking away of the concrete at the time of vibration; that, however, it does crack is proved, because from time to time this roof leaks, when the position of the water-mark on the ceiling of the room beneath shows us where the crack is, and we are able to stop it up. I think this in a small way supports my theory that with deflection, fracture occurs, invisible at first, but eventually sufficient for the water to find its way in. It is an undoubtedly faulty piece of construction: the beams should have been made strong enough to carry the flat, the flat only having to carry itself between the beams; if it had been so I should have had a tight roof.

As a covering or protection to iron against fire, I entirely agree with your correspondents that no better material than concrete can be used; but in that case the iron must supply the strength to the structure, and in warehouse and similar floors the combination has been most successfully applied. But, sir, this correspondence began by a suggested "iron and concrete" style of architecture, and I, therefore, again, for the reasons already stated, assert and maintain that concrete is best used and treated in a similar manner to stone and brick, and not as a substitute for iron.

HENRY FAIJA.

Erratum.—In Mr. Thwaite's communication on "Concrete and Iron," p. 876 (vol. xlv.), for "approximately the ultimate strength of a beam composed entirely of concrete," read "approximately the safety strength of a beam composed entirely of concrete."

"THE ARCHITECTURE OF ENGLISH FICTION."

SIR,—In the article under this head in your last number (p. 848), it is said that "Smollett simply ignores architecture altogether."

The criticisms of Matthew Bramble in "Humphrey Clinker" on the streets and buildings of London, Edinburgh, and Bath, more especially the latter, are too well known by Smollett's readers to permit such a judgment to pass without contradiction. A writer should be judged by his masterpiece, and it is universally admitted that "Humphrey Clinker" is Smollett's masterpiece, and not only that, but one of the great masterpieces of English humour.

M. P.

SUMMONSES AGAINST OWNERS OF UNHEALTHY TENEMENTS.

AT the Worship-street Police Court, on the 28th ult., several summonses, taken out at the instance of the Bethnal-green Vestry against owners of house property in the parish for allowing nuisances to exist upon their premises, were heard by Mr. Bushby.

Mr. Burrows, the Sanitary Inspector, applied for an adjournment in the first summons against Thomas Watson Francis, for allowing a nuisance to exist at 4, Austin-street, Bethnal-green, the stated offence being that a water-closet was used as a bakehouse.

An adjournment for twenty-eight days was agreed to.

The owner of Nos. 3, 4, 5, 6, 7, 8, 9, and 10, Half Nichol-street, whose name did not appear on the summons, appeared to a complaint that he had allowed nuisances at those houses.

The Sanitary Officer stated that he made an inspection of the premises, and found the whole of them dirty and very dilapidated; the paving and the drainage were imperfect and dangerous, the water-closets were foul and dirty, and there were no ash-pits; besides which, the sinks in the yard were not trapped.

Dr. Bate, medical officer, said he saw the houses a fortnight after the usual notice was served, and the required improvements had not then been seen to, except in a few instances.

Mr. Bushby made an order for the remedy of the nuisances in a fortnight, and ordered the defendant to pay costs.

A similar order was made upon George Hartsoll, the owner of Nos. 3, 4, and 5, New Nichol-street. In this case the evidence was that the places were dirty and dilapidated, the paving on the floors and passages defective, the water-closets untrapped, and no ashbins. Notices were served, but on the medical officer's visit subsequently the required repairs had not been undertaken.

Mr. Bushby readily made the order, and in several other cases assented to adjournments on the application of the complainants.

COMPENSATION CASES.

CRIDLAND *v.* METROPOLITAN BOARD OF WORKS.

THE Under-Sheriff of Westminster and a Special Jury have disposed of the case of Cridland *v.* The Metropolitan Board of Works. It was a claim for compensation in regard to the Duke of Wellington, Spring-gardens.

On behalf of the claimant, Mr. Kelday estimated the present lease as worth 4,500*l.*, and Mr. E. F. Fuller (of Messrs. Fuller & Fuller) valued Mr. Cridland's interest at 360*l.* beyond the aggregate premium and liabilities of 5,500*l.*

Mr. Haines, of Moorgate-street, and Mr. Miles (of Messrs. Lovejoy & Co.) considered the claimant's maximum interest was worth no more than six years' purchase on a net trading of 340*l.*

The jury, after some deliberation, awarded the claimant the sum of 2,980*l.*, independently of 2,000*l.* for renewal of lease.

LEVY *v.* METROPOLITAN AND DISTRICT RAILWAYS.

THIS case, heard before Mr. Under-Sheriff Burchell and a special jury at the Middlesex Sheriffs' Court, Red Lion-square, was a claim for compensation for the destruction of a fruiterer's business next door to the Pavilion Theatre, Whitechapel, for which 1,950*l.* was claimed.

Mr. Cooke Baines, surveyor, Finsbury-circus, said he should claim 120*l.* if this were a yearly tenancy, and he should not claim more for an agreement with only one year and three-quarters to run. He considered that the rental value was 130*l.*, if in hand. He did not limit the claim to a year and a half's profit rental. Including 75*l.* for removal of stock and furniture, his estimate was 190*l.*, plus the trade. The premium of 20*l.*, spread over the three years, would bring the rent up to 128*l.*, so that practically there was no profit rental.

The Under-Sheriff thought that after this evidence the claim for leasehold interest must fail, but after some discussion it was intimated that it would be left to the jury.

Mr. Eason (of the firm of Reynolds & Eason, auctioneers and surveyors), estimated the present rental value at 140*l.* That gave a profit rental of 20*l.*, which, for the remainder of the three years would be 30*l.*, but under the agreement another year would have to be added.

Mr. Sheffield, solicitor to the claimant, and Mr. Young, lessee of the premises, were called, and deposed to the terms on which they were let.

This concluded the evidence, and after hearing the addresses of counsel and the summing-up of the learned Under-Sheriff, the jury returned a verdict, divided in prospect of appeal, as follows:—Profit rental (including 10 per cent.), 11*l.*; fixtures, 20*l.*; loss on stock, 5*l.*; removal, 10*l.*; compensation for loss of business, 400*l.*; total, 446*l.*

DILAPIDATIONS.

GALPIN *v.* HUSSEY.

SIR,—As you made some comments on this case in the *Builder*, you may like to know that the Court on appeal adopted the plaintiff's reading of the repair covenant. However, rather than incur the trouble and expense of a re-hearing the plaintiff agreed to allow the amount awarded to stand; but he is relieved from paying the costs of the defendant.

JAMES EDMESTON.

FROM SCOTLAND.

Glasgow.—The Theatre Royal is to be reopened for the New Year's holidays. Since it was closed about a twelvemonth ago an important change has been made in the accommodation in the house. Originally the gallery was very steep, and from a number of the seats only a very imperfect view could be had of the stage. To overcome this objection the amphitheatre seats have been thrown into the gallery, and a broad promenade has been formed where the division between the two sections formerly existed. The alterations have been carried out under the direction of the Master of Works. The *Glasgow Herald*, in a report on "Trade in the West of Scotland in 1883," states that bricklayers have found trade during the year rather better than it was in 1882, all good men being fully employed. Roughly, the number of bricklayers employed in and around Glasgow is 550. The standard wage is 8d. per hour, the same as last year. As far as can be observed, and without knowing what work architects and measurers have on hand, the New Year promises to be as good, if not better, than the one just closed. The situation of the joiner trade is shown in the annual report just issued by the secretary. He says that during the past year a considerable improvement has taken place, so much so that all the workmen engaged in the large centres of industry have been fully employed, while in nearly all the country districts there has been an absolute scarcity of men. The income for the year was 6,716*l.* 17s. 1½d.,—an increase of 323*l.* 16s. 11½d. over the previous year. The expenditure was 6,431*l.* 7s. 3½d., and the surplus being added to the funds on hand makes the total 8,126*l.* 11s. 6½d. Lath-splitters have found trade for the past year very good,—a decided improvement on the last few years. The number of men at present employed is 63,—an increase of 15. During the year the men have succeeded in forming a society, the previous state of trade rendering it impossible to do so, though several attempts were made in that direction in the last four years. There are fifty-two enrolled members. Immediately after the formation of the society an advance of wages was secured to 6d. per hour, ¾d. per hour over the previous year's rate of wages. Masons have been busy, and are likely to continue so,—the heavy building contracts on hand in the city placing that fact beyond question. There are some 1,800 men in the city, and the wage is 7½d. per hour, ½d. better than last year. Connected with the building trade there are some 2,000 masons', bricklayers', and plasterers' labourers, a reduction of about 1,000 on the year. Throughout the year work has been partially fair, the wages ranging from 4d. to 5½d. per hour; but at present prospects are not so good as they were at this time last year. Wages are about the same as last year, without signs of improvement. There are at present upwards of 600 members of the slating trade in Glasgow, being a considerable increase on 1882, and during the year they generally have been pretty well employed, there having been comparatively few idle men. The wage at present is 7d. per hour,—the same as last year, and the arrangement with the employers as to the rate holds good till May. The hours worked are fifty-one per week for eight months of the year. The other four months the average is about eight hours per day. Of new works in hand at present there are notably the Municipal Buildings, just commenced; the restoration of the extensive properties recently destroyed by fire in Buchanan and St. Vincent streets; the extensions at the City Fever Hospital, London-road; the operations in connexion with the City and District Railway, as well as the many private undertakings which have been arranged for in different quarters of the city. A good idea of the amount of building work on hand,—though sanctioned, the greater proportion remains to be executed,—will be formed from the following statement, prepared by Mr. John Whyte, assistant master of works:—

Linings granted by Dean of Guild Court, with Valuations, in 1882 *and* 1883.

Nature of Operations.	1882.		1883.	
	Linings.	Valuation.	Linings.	Valuation.
New dwelling-houses and Shops	24	£97,050	25	£113,500
Alterations on shops and dwelling-houses	35	13,671	41	17,855
Warehouses, workshops, offices, stables, byres, and alterations on such premises	144	290,830	157	193,275
Churches, halls, schools, and other buildings for public purposes, with alterations on such	24	97,865	24	360,350
Totals	227	£499,416	247	£684,980
Increase, 1883...	—	—	20	£185,564

The new halls in connexion with St. Bernard's parish church have been opened. These new buildings, which have been erected during the past summer by Dr. Stewart and his congregation, at a cost of 1,500*l.*, consist of a large hall and four smaller halls for congregational and Sunday-school work. The buildings have been erected from plans by Mr. William Murray, architect, Rutland-place.

Iron Bridge across the Spey.—A novel bridge for the conveyance of the workmen employed in connexion with the new railway along the Moray coast has (says the *Inverness Courier*) just been thrown across the river Spey at its widest part between Fochabers and Garmouth. The span is 500 ft., and the bridge consists of four steel wires or cables, on which runs an iron carriage weighing 140 lb. The iron carriage is lined and floored with strong diamond lattice wire, thereby presenting little or no resisting surface to the wind. The four upper wheels have each a crank handle affixed, by means of which the passengers, seated back to back, can propel the carriage up to the short incline at the termination of each journey. For 460 ft. or so the trip is accomplished by gravitation. After the work had been completed, and the carriage put in position, Mr. Harper Seafield, who was entrusted by the Great North of Scotland Railway with the design and execution of the scheme, started for the opposite shore, which he reached in the short space of 40 seconds, returning with a passenger, against a strong pressure of wind, in rather less than a minute. without having to use any exertion except in ascending the few feet of incline as he approached his destination.

Value of Property.—Scotch papers report that the estate of Allanhill, near St. Andrews, was sold on the 21st ult. at Edinburgh, realising the sum of 7,000*l.* It is stated that the same property changed hands in 1872 at 10,050*l.* The sale thus shows a reduction since then of over 30 per cent. The estate comprises about 230 acres.

PROVINCIAL NEWS.

Leeds.—The past year (says the *Leeds Mercury*) cannot be said to have been very successful so far as the building trade is concerned, although employers are, perhaps, more busy now than for some time past. Depression has ruled over this trade for several years, and many workmen are either out of work or only partly employed. The year has witnessed the completion of many important works, and has seen the commencement of a few. Perhaps first in importance of the building operations begun during the year is the new cattle-market, the site of which is now being prepared and levelled. There are also in progress one or two Board schools, besides the Yorkshire College, in College-road, the Coliseum, and the new Co-operative Stores. The Municipal Buildings are rapidly approaching completion. The erection of artisans' dwellings of the better class is being conducted on a moderate scale, chiefly in the neighbourhood of Burnley-road and Meanwood-road, and tenants for these offer themselves pretty numerously. Of houses at rentals of over 20*l.*, few, if any at all, have been erected during the year, and the demand for them is exceedingly poor. Under such circumstances, the prospect of any radical improvement for some time to come at any rate is small, though builders are sanguine that the worst has passed.

Carlisle.—Compared with last year, the building trade in Carlisle in 1883 has not been very active. The number of dwelling-houses for which certificates of occupancy have been granted was 54, against 64 last year. Most of these were erected in the Denton Holme quarter of the town. In the beginning of May the bricklayers of Carlisle struck work for an advance of wages. They asked for 7½d. per hour, but after some negotiation the wages were settled at 7d. per hour. At the end of June the joiners of Carlisle secured an increase of wages at the rate of a halfpenny per hour from the 1st of July, with a promise of an additional farthing per hour after the 1st of January, 1884, making the standard of wages 6¾d. per hour from the 1st of January.

Bradford.—It is proposed to erect a new central railway station here, and a meeting was held on the 28th ult. for the purpose of receiving explanations as to the nature of the proposed works. The scheme, if carried out, will provide through communication between the Great Northern and Midland and the Lancashire and Yorkshire railways.

Dover.—The first operations in connexion with the preparatory works for the proposed Harbour of Refuge at Dover will be commenced in March or April, when the erection of barracks for the accommodation of the convicts to be employed in the harbour works will be started. It is ultimately intended to employ about 5,000 convicts on the works; but, according to present arrangements, the first batch will not exceed sixty or seventy. These will be lodged in Fort Burgoyne, near the Castle, and within easy distance of the site for the proposed barracks. Their number will be augmented as the work proceeds and accommodation is provided.

Northampton.—Wood paving is being tried in this town, the roadway between St. Giles's-

square and All Saints' Church being now laid with wooden blocks. Some 1,600 yards of wood have been laid altogether. The work has been done by a Norwich firm which has laid a good deal of wood paving in that city.

Bootle.—On Saturday last the foundation-stone of the Bootle Reform Clubhouse was laid by Mr. W. Dent Dent, J.P. The building will occupy a site in Stanley-road, and will include reading-rooms, coffee-rooms, billiard-rooms, committee-rooms, and large hall to accommodate 700 or 800 persons, with the necessary ante-rooms and offices. There will be ample ground at the south of the hall for a spacious bowling-green, quoit-ground, and skittle-alley. The architect is Mr. D. Lyon, of Leith-offices, Moorfields, Liverpool, and the builder is Mr. Eskrigge, of Irlam-road, Bootle.

Rochester.—Formal assent has been given by the Admiralty to the plans of the South-Eastern Railway for extending their line from Strood to Chatham, and for the construction of another large railway bridge over the Medway at Rochester.

Wolverhampton.—On the 28th ult. the chairman of the Sanitary Committee of the Town Council, Alderman Major, laid the memorial stone of the Borough Hospital for Infectious Diseases now in course of erection on the site bordering the Roughhills, on the Dudley-road side. The building of which the stone formed a part is to be restricted to one hospital pavilion furnished with twenty beds, but there is land enough for the erection of three similar pavilions should they be found necessary. A disinfecting station and offices are also to be immediately proceeded with. The buildings will be plain and substantial specimens of brick-and-tile work, designed by Mr. G. E. Thoms, Borough Engineer, and erected by Mr. H. Clark.

Newcastle-on-Tyne.—The new premises in Newgate-street, recently erected for Messrs. Wilkinson & Simpson, wholesale chemists, in place of those destroyed by fire in August, 1882, are now completed. The front to Newgate-street is designed in the Queen Anne style, and executed in red Sussex bricks and Prudham stone. Mr. Edward Shewbrooks, of 2, Market-street, was the architect under whose superintendence the whole of the work has been carried out.

Liverpool.—The occasion of the "turning of the first sod" of the Liverpool Zoological Gardens was celebrated by a dinner at the Queen Anne Hotel, Walton, on the 28th ult. Mr. Millward, the company's manager, and Mr. Kitchen, the secretary, acted as chairman and vice-chairman, and were supported by several shareholders, the contractors, the architects (Messrs. Sugden & Son), Mr. John Shaw (the landscape gardener), and other friends. Mr. Millward gave a brief statement of the very encouraging progress which had been made, of the considerable works actually in hand and those contemplated and being matured for early execution by the directors and their architects. After Mr. W. A. Sugden had exhibited and explained the designs for various buildings and their general grouping, Mr. Shaw addressed the company, giving an outline of the general landscape effect he hoped to produce.

Dorking.—The Dorking Local Board have received the sanction of the Local Government Board to borrow 13,000*l.* for works of sewerage and sewage disposal. The whole of the Local Board District will be sewered by gravitation, and upon the separate system. The mode of treatment of the sewage will be by precipitation on "Hanson's" process, as at Golcar and Aldershot, but with the addition of subsequent land filtration. The area of the site to be used for outfall works consists of 10½ acres. The population of Dorking is nearly 7,000.

Nutfield.—On the 1st inst. the South-Eastern Railway Company opened the new station at Nutfield, near Redhill, on the old line to Tunbridge. The building has been designed by Mr. Alexander R. Stenning, architect, of 121, Cannon-street, and is constructed with timber framing, filled in with red brick, with a tiled roof. Mr. Stenning is also laying out for building the estate adjoining the station, the property of Mr. Henry Edwards, M.P. for Weymouth.

Christmas Cards.—Mr. J. C. Horsley, R.A., writes to the *Times* to say that he designed and drew the first Christmas card in 1846 at the suggestion of his friend, the late Sir Henry Cole.

SANITARY NOTES.

Newcastle-on-Tyne.—Dr. H. E. Armstrong, the Medical Officer of Health for Newcastle, has recently prepared for the Town Council a report on the high death-rate in Newcastle (which was 27 per 1,000 of population during the last quarter as compared with 24·4 per 1,000 of the corresponding quarter of last year). Dr. Armstrong makes a number of suggestions with the view of rendering the city healthier. He urges that not only the sewers themselves, but the house-drains, should be laid by the Corporation *employés*, under official supervision. He points out the evils of ground-crowding, and makes the following recommendations:—

"With the view to prevent one of the great evils of our city,—ground-crowding,—it is suggested that, failing the acquisition of authority to check the number of houses to be built on a given area, power be sought to extend the regulation limit of room-space to 500 cubic feet per person occupying houses built after a certain date. The education of the different classes of society in the elements of hygiene is greatly to be desired. This, in the first instance, would probably be best brought about by popular lectures on hygiene at a nominal charge for admission. Arrangements might advantageously be made for a special course of lectures to plumbers, builders, and others on the sanitary requirements of houses, &c. Such a course could not fail to be of interest to householders, and should be well attended. Much good may be done by sanitary associations of philanthropic and educated persons, clergymen, doctors, &c., for the purpose of influencing public opinion, quickening the consciences of tenement-owners, &c.; with a branch under the direction of ladies for the organisation of house-to-house visitation among the poor, on the principle of the London Ladies' Sanitary Association."

The Sanitary Act, 1866.—The Local Government Board, by notice in the *London Gazette*, have declared the enactment contained in section 35 of the Sanitary Act, 1866, to be in force within the following parishes and districts of the metropolis, viz.:—The parishes of St. Marylebone, St. Pancras, St. George Hanover-square, Paddington, St. Mary Newington (Surrey) Camberwell, St. James and St. John Clerkenwell, Bermondsey, St. Martin-in-the-Fields, and St. John Hampstead; and the districts of Greenwich, Wandsworth, Holborn, Fulham, St. Saviour's, Plumstead, and Lewisham.

Unhealthy Areas.—The Local Government Board has requested the Clerkenwell Vestry to consider the question of taking steps, under the Artisans and Labourers' (Torrens's) Act, in relation to those unhealthy areas in the parish referred to in the official representation made to the Metropolitan Board of Works by the district medical officer of health, Dr. Griffiths, with respect to which the Metropolitan Board has decided not to prepare improvement schemes because of the small size of the areas.

MASTERS AND MEN.

Cardiff.—On the 27th ult., a meeting representing the various trades of the town was held to discuss the question of forming a Trades' Council for Cardiff. Mr. Gardner, of the Operative Stonemasons, was voted to the chair. Mr. W. Phillips, of the Operative Stonemasons, who is the chief promoter of the movement, pointed out the many advantages which would accrue from a combination of the various trades of Cardiff, and showed that they would assist each other, both morally and materially, in all matters affecting their best interests by a combination of this sort. The speaker concluded by moving, "That a Trades' Council be established in Cardiff." A discussion ensued, which was taken part in by Mr. Evans, of the General Union of Carpenters and Joiners; Mr. Luwarther and Mr. Francis, of the Amalgamated Engineers; and delegates from other trades; and the motion was carried unanimously.

The Moral of Strikes.—It appears from the report of the Ohio Bureau of Labour Statistics that out of twenty-two strikes in that State in 1882, only five were successful. The time lost was, in the case of iron and steel workers in rolling-mills, sixteen weeks; boilermakers, six weeks; stair-builders, three weeks; and cigar-makers, two weeks. Advances in wages ranging from 8 to 16½ per cent., without strikes, were reported in twenty-three occupations during 1882. But it should be stated in regard to these figures that no doubt wages were in many cases advanced through fear of strikes, and there were many employers who confessedly yielded to this feeling alone. With regard to the boot and shoe manufacture of Cincinnati, an interesting experiment in arbitration has been tried. A board of arbitration and conciliation has been organised, composed half of employers and half of *employés*. Before this board comes every dispute, and, pending a decision, work is to be continued in the shops as if nothing had happened. If the board cannot reach a decision, each side selects an arbitrator, and the arbitrators an umpire. The decision of these three is final. Each factory has a shop committee, composed of the proprietor or a member of the firm and two persons selected by the *employés*, who hear any dispute in the factory, and if they cannot agree they refer it to the board. No employer or *employé* is allowed to interfere with anybody because he is a union or a non-union man.

CHURCH-BUILDING NEWS.

Truro.—St. Paul's Church, Truro, is to be opened on Monday next, the 7th inst., after enlargement. The church is of quite recent erection, but has been found too small to meet the requirements of a growing and populous parish, and an addition, 40 ft. in length, at the chancel end, has been made. The new east window is a finely-carved cusped seven-light window with deep tracery. It is built of Polyphant stone, from Lewannick, near Launceston, of which material most of the new eastern part is constructed. The lower stage of a tower has also been added, forming the east end of the south aisle; and the east end of a north aisle has likewise been built to prepare for the addition of a north aisle to the church, which at present consists of nave and south aisle, divided by a neat granite arcade. A new rood-screen has been erected. It is of solid carved oak, and of much the same character as the one lately placed in Newlyn East Church, the architect having been in both instances Mr. Sedding, of London, though the details are quite different. The screen consists of four arches and a gateway, with a rood-loft, the style being fifteenth-century. The screen has been executed by Mr. A. Robinson, Broad-street, London. There are altogether nine steps from the level of the nave to the altar, the latter standing on four steps. The chancel floor has a paving consisting of black, red, green, and white marble designs, set in encaustic tiles. The east window is the crowning effect of the chancel. The seven lights are each filled with stained glass. This window has been given by Lady Smith as a memorial to the late Sir Philip Protheroe Smith. It is the work of Messrs. Westlake & Co., London. The chancel roof is richly illuminated. It is divided into panels each of which contains the sacred monogram, a delineation of the sacramental cup, or a flower. Messrs. Solomon & Co., of Truro, were the decorators. At present the chancel roof is several feet higher than the roof of the nave, but when funds permit the nave roof will be raised to the height of the chancel, which is 16 ft. The arcades and pillars are of Doulting stone, whilst the remainder of the work is of Hopton-wood stone. Beneath the new chancel commodious vestries, cloak-room, and large meeting-room have been made. The architect, as before mentioned, was Mr. Sedding, London, and Mr. Bone, of Liskeard, was the contractor. The enlargement, so far as it has gone, will cost 2,500*l.*

Flyford Flavell.—On the 28th ult. the church of Flyford Flavell was re-opened, after restoration. The principal landowner in the parish is Mr. W. Laslett, who is Lord of the Manor and Patron of the living, and who some years ago placed in the hands of trustees for charitable purposes a large landed estate at Hinton-on-the-green, in the county of Gloucester, from the revenue of which it was provided that Flyford Flavell Church should be re-built or restored. The church was Early English in style, and originally consisted of chancel, nave, tower, and porch. The tower has been underpinned, a new concrete foundation inserted, and the decayed stonework renewed. The nave has been for the most part rebuilt, retaining as far as possible the old features and portions of the old work, as the old windows, bench ends, and the chancel screen, in the reconstruction of which a design based upon some fragments of the old screen has been followed, and a very interesting piece of work has resulted. The chancel, which was a modern erection of the present century, has

been replaced by a new one, in keeping with the existing portions of the Early English church. A new porch has also been added, and a vestry on the north side of the chancel is an entirely new feature. The roofs are all new, but have the same pitch and form as the original ones. All the new fittings, with the exception of the chancel screen (which is oak) are of pitch-pine. The new work is of Inkberrow stone throughout. The nave is paved with Webb's tiles and the chancel with Godwin's (Hereford) tiles. The church will be warmed with hot air. The architect employed was Mr. W. J. Hopkins, of Worcester, and the builder was Mr. J. Stanley, of Broom. The cost of the work was about 1,500*l.*

London.—A meeting of the united parishes of St. Mary Magdalen and St. Gregory-by-St.-Paul, was held on the 27th ult. in the Vestry-room of the parish church. The vestry considered the plan and an estimate of the cost of certain alterations in the fittings of the church. The Chairman read a letter from Mr. Butterfield, architect, which stated that the proposed alterations would cost 167*l.* Mr. Fawell said he thought the proposed alterations would entirely spoil one of Wren's churches. The Chairman said the church had been materially altered since Wren left it. After some further discussion, the subject was adjourned for further consideration.

Maybole (*Ayrshire*).—The mission church of St. Oswald was formally opened and consecrated by the Right Rev. the Bishop of Glasgow, on the 18th ult. The church is built in the Early English style, and is seated for nearly 200. It is built of local freestone, and consists of nave, chancel, porch, and vestry. It is believed that the total cost will not exceed 600*l.* The architect was Mr. Miles S. Gibson, of 79, West Regent-street, Glasgow.

Stoke (*Staffordshire*).—A new church is about to be erected at Mount Pleasant, Stoke, in lieu of the present Mission church. The new building is proposed to be dedicated to St. Paul, and will be erected on a site given by Mr. G. Smith, of Clifton, in Grove-road. Plans have already been prepared by Messrs. Lynam & Rickman, architects.

Compton Gifford.—A new reredos has been erected in Emmanuel Church, Compton Gifford, by Mrs. T. Rendle, in memory of her late husband, who was churchwarden for several years. The reredos is the work of Mr. Harry Hems, of Exeter. It is built of Caen stone; the central arch is filled in with alabaster, worked in gold, with the monogram "I.H.S," surmounted by a crown, cut in Devonshire marble and inlaid.

Hanworth (*Middlesex*). — A substantial and ornamental lich gate has recently been erected, as a memorial, at the entrance to the churchyard of the parish church, of which the Rev. J. L. Winslow is the rector. It is executed in English oak and fixed upon a stone base, and the roof is covered with plain tiles. It forms a very picturesque object in conjunction with the church as seen from the road and park. The work has been executed by Messrs. Dove Brothers, builders, of Islington, at a cost of 350*l.*, under the directions of Mr. George Low, architect.

STAINED GLASS.

Embleton.—An interesting memorial to the late Sir George Grey, of Fallodon, has just been erected in Embleton Church. His many friends were desirous of perpetuating his memory, and resolved to fill with painted glass the windows of the chancel of his parish church. Embleton Church is an ancient building, dating from the fourteenth century, but was left unfinished by its original designers. A new chancel was built in 1864 by the rectors, Merton College, Oxford, from the designs of Mr. F. R. Wilson, architect, Alnwick. The windows are the work of Mr. C. E. Kempe, London.

Belfast.—A memorial window to the late Mr. B. T. Hewitt, which the workmen of Messrs. Heaton, Butler, & Bayne have been for some time erecting, under the superintendence of Mr. E. N. Banks, C.E., in the chancel of St. Thomas's Church, Lisburn-road, has just been completed.

Worlingham.—A painted east window has just been placed in the Church of Worlingham All Saints, near Beccles. The window was dedicated at the service on Christmas morning. The lower part of the window is divided by three lights. The central one contains a representation of the Crucifixion, with Mary Magdalene at the foot of the cross; while the lights on either side portray the two Marys, St. John, and St. Joseph of Arimathea. The four smaller central lights above have angels, two bearing instruments of music and the others a crown and a palm branch. In the tracery are introduced emblems of the four evangelists, &c. The window was executed by Messrs. Clayton & Bell, of London.

SCHOOL-BUILDING NEWS.

Worcester.—New Sunday schools for the parish of St. Mary Magdalene, Worcester, have been opened here. The buildings comprise a large room, 70 ft. by 23 ft., and about 29 ft. high to the ridge; two class-rooms, two lobbies, and the requisite out-offices. The walls are faced externally with brown and grey Bromsgrove stone, in random courses, rough punched, and relieved with Bath stone bands. Internally they are of red pressed brick to the height of 4 ft. 3 in., and above this height of Ironbridge buff-coloured bricks, with an intervening band of red and buff bricks in diaper pattern. The windows and other dressings are of Bath stone. The roofs are all of pitch-pine, open-timbered, plastered between the rafters, supported by framed trusses having arched ribs, and covered with red Broseley tiles. The internal joiner's work is of yellow deal, varnished. The floors are of wood blocks, laid herring-bone pattern, on a bed of concrete, and the entrances are laid with Webb's encaustic tiles. The school-room and class-rooms are heated by open fire-places having red Alvely stone chimney-pieces. Separate play-grounds are provided for the boys and girls. The works have been carried out by Mr. J. H. Beard, from the designs and under the supervision of Mr. Lewis Sheppard, architect, Sansome-walk. The total cost of the works is under 1,500*l.*, but the Bromsgrove stone facing, which adds much to the good appearance of the schools, is the gift of Colonel Johnstone. Mr. John Rouse, Lowesmoor, presented the stone fenders. The gas-fittings were executed by Mr. G. F. Wells. The Tything.

Cardiff.—On Tuesday, the 18th ult., the new Board School at Grangetown, Cardiff, was opened by Sir E. J. Reed, M.P. The school is a two-storied building, and is divided into three departments, the boys' school being on the first floor and approached by a broad flight of Radyr stone steps. Each department has a main schoolroom and three class-rooms; and the class-rooms are so arranged that in each case they can be easily supervised by the head teachers through glazed sashes from the main room. The infants' schoolroom is fitted with two large galleries and dual desks. The other schoolrooms are fitted entirely with dual desks. The class-rooms are also fitted with dual desks for the senior children; but one class-room in each department is provided with a gallery. The main schoolrooms are heated with Doulton's radiating tile stoves, and the class-rooms with open fire-places. The walls of the rooms internally are plastered. The roofs are all open to the collar, and reveal principals of Baltic timber covered in with match-boarding. The match-board dado, doors, and furniture are all executed in pitch pine, and the timber work in sight internally throughout the building is stained and varnished. The building is designed in the Gothic style, with early French detail and carvings. The carving has been executed by Mr. Clarke, of Llandaff. The walls are built with thin coursed hammer-dressed native stone of a grey tint, relieved with Bath stone dressings and chisel-dressed strings and arch stones of red Castle Coch stones. The roofs are covered with green slates, and the ridges and some of the finials are executed in red terra-cotta. The bell flêche is constructed of timber. The caretaker's house is situated on the east side of the school. The drains are ventilated on the "Banner" system. The accommodation provided is for 426 infants, 309 boys, and 309 girls, making a total of 1,044 school places. The contract was signed by Mr. D. J. Davies, of Woodville-road, Cathays, for 8,849*l.*; but in consequence of the bad nature of the site for building purposes it was found necessary to spend another 960*l.* on the foundations. The building, therefore, is constructed on brick arches thrown over concrete piers, which have their base upon the gravel bed, some of the piers having to be sunk to a depth of 27 ft. below the surface. The school is the largest but one that has been built by the Board, and is stated to be one of the cheapest, for at the contract sum, which includes all fittings, boundary-walls, &c., it works out at 8*l.* 9s. 6d. per head. The work has been carried out by the contractor, under the supervision of the architect, Mr. E. M. Bruce Vaughan, 74, Crockherbtown, Cardiff.

Newington, Hull. — The Parish Rooms and Sunday Schools in connexion with the Church of St. John-the-Baptist are now completed, and were opened on the 13th ult. by the Vicar. The building is in St. George's-road, adjoining the church, and comprises a large room, three class-rooms, soup kitchen, &c., and has been erected by Mr. Mark Harper, contractor, Hull, from the designs and under the supervision of Mr. Edward Starr, architect, Chancery-buildings, Manor-street, Hull; the total cost being about 900*l.*

Grays.—A new Board school at Grays, Essex, erected by the Gray's Thurrock School Board, has been opened. The plans were prepared by the architect of the Board, Mr. E. Clerk Allam, of Romford, and the building has been erected by Mr. William Wood, contractor, of Duke-street, Chelmsford. The school provides accommodation for 642 children. The style adopted by the architect is described as "modified Queen Anne." In the centre of the range stand the residences of the principal master and mistress, comprising parlour, living-room, scullery, and three bedrooms. On the right of the residences stands the boys' school, surmounted by a lofty bell-turret. This room is 60 ft. long by 32 ft. wide, and provides accommodation, including the class-room, for 222 boys. The class-room, as also that on the girls' side, is separated from the main room by a revolving shutter, which can be raised or lowered at pleasure. In the rear of the class-room are the Board-room and lavatories for the boys. On the further side of the residences is the girls' school, 60 ft. by 22 ft., giving accommodation, with the class-room, for 180 girls. In the rear of this, and extending at right angles with it, is the infants' school, 62 ft. by 22 ft., containing two galleries, which will, with the adjoining "babies' room," provide accommodation for 240 children. These last are also provided with lavatories, the whole of which have been fitted up with Finch's tip-up basins. The girls' and infants' rooms are warmed by means of Captain Galton's stoves, while the boys' room is warmed by hot air, the furnace for which,—one of Constantine's,—is fixed in the basement, below the Board-room.

Gosforth.—New Sunday Schools in connexion with the United Methodist Free Church at Gosforth were opened on Christmas Day. The schoolroom is 47 ft. long, 28 ft. wide, and 20 ft. high to the ceiling above the collar-beams; the roof couples are of pitch pine varnished; and the walls are lined with stained and varnished boarding to a height of 4 ft. 6 in. from the floor, and finished above with stucco, tinted cream colour, with a moulded wooden cornice to the ceiling. Two class-rooms, each 16 ft. long and 13 ft. 6 in. wide, open out of the schoolroom. The whole of the buildings are finished with Kenton stone, and the roofs are covered with blue Welsh slates and ornamental red tile ridges. The principal front is in Ivy-road. The work has been carried out by Mr. Matthew Robson, of Gosforth, from the designs and under the personal superintendence of the architect, Mr. Edward Shewbrooks, of Newcastle-on-Tyne. Messrs. Walker & Emly, of Newcastle, supplied the hot-water pipes.

Miscellanea.

Archæological Discoveries in Lebanon.—M. Clermont-Ganneau contributes to the *Times* an account of an important discovery recently communicated to the Académie des Inscriptions et Belles Lettres, by M. Barbier de Meynard, the well-known Orientalist, consisting of two large unknown inscriptions of Nebuchadnezzar, found in Lebanon by M. Pognon, assistant-consul of the French Republic at Beyrouth. The two inscriptions each contain a different text. They commence by the titles of Nebuchadnezzar,—"Nebuchadnezzar, King of Babylon, the illustrious pastor, the servant of Merodak, the great Lord, his Creator, and of Nebo, his illustrious son, whom his Royalty loves." Unluckily, the two inscriptions do not comprise any historical passage.

An "Old Curiosity Shop."—An old house in Portsmouth-street, Lincoln's Inn-fields, said to be the one selected by Charles Dickens as the scene of many of the incidents recorded in the "Old Curiosity Shop," is now about to be demolished in consequence of its dangerous condition. Information reached the Metropolitan Board of Works late on Christmas Eve that the building and the two adjoining houses were collapsing. Messrs. J. & J. Greenwood, the contractors to the Metropolitan Board of Works, were immediately instructed to shore up, and during Christmas-day were busily engaged. The premises now appear to be used as a store for waste-paper, the adjoining houses being let out in tenements, some of which are dangerously overcrowded. The whole condition of this neighbourhood is squalid in the extreme, and little effort seems to be made by the authorities towards keeping the streets clean. The authenticity of the house as the original of the "old min's" house is more than doubtful, but such is the faith in it, and the attachment of English folk to the association with Dickens's characters and scenes, that scarcely had the notice appeared in the papers that the home of Little Nell was going to be pulled down, when a crowd of admirers and gazers appeared in Portsmouth-street. People with sketch-books came to draw the house from the two only accessible points,—the one looking towards Lincoln's Inn-fields, the other outside a public-house opposite the "Curiosity Shop" itself. People without sketch-books came to look at the people who drew; people with work walked past briskly, some pausing a moment, and declaring how strange it was that they had never noticed the place before, though they had passed it every day of their lives. In the parlour stands now a buxom dame, the present proprietress, making a good profit by selling sketches of the abode at 2d. apiece. The quaint little house has not much to recommend it in its outward appearance, and had it not been connected with the name of the man who felt with and loved the people, they would now pass it by unheeded, instead of cherishing it as an old favourite, out of love for his memory.

The Goldsmiths' Company's Prizes.—The twelfth successive annual competition for prizes offered by the Goldsmiths' Company, with a view to the encouragement of technical education in the design and execution of works in the precious metals, has just been concluded, and the judges, who have been assisted in their duties by Mr. H. H. Armstead, R.A., have made the following awards:—

For the best model of a group, "Highlander bringing Home dead Deer on Pony": First prize, 70*l.*, Mr. C. Worrall; second prize, 35*l.*, Mr. James Griffiths. For the best design of a Racing prize (value 300*l.*), of a ewer and dish for *repoussé* work: First prize, 50*l.*, Mr. Tom Smith; second prize, 35*l.*, Mr. W. R. Lethaby; third prize, 20*l.*, Mr. S. Thorpe. For the best specimens in *repoussé* work of a panel by Donatello: Equal prizes of 30*l.* to Mr. T. Spall and Mr. A. Ostertag. For the best specimen in *repoussé* work of a relief of three boys, by Thorwaldsen; First prize, 35*l.*, Mr. T. Spall; second prize, 20*l.*, Mr. G. H. Deere; extra prize, 15*l.*, Mr. A. W. Edwards. For an engraved cigarette case in silver: Prize of 10*l.*, Mr. W. R. Corke. For an engraved silver waiter: First prize, 20*l.*, Mr. W. J. Deere; second prize, 15*l.*, Mr. J. Menzies. For a manufactured silver frame for cabinet-sized photographs, with perforated work: a prize of 30*l.*, Mr. J. Hornby, jun. For the best specimen of core casting in silver of a bust of Ariadne: a prize of 15*l.*, Mr. W. Priest. For a silver glove-box, with very flat chasing: a prize of 20*l.*, Mr. W. Bullas.

In addition to the above prizes the Company have awarded gratuities to several competitors, and have commended several additional works. —*City Press.*

Fulham Infirmary.—In the new Infirmary recently erected in Palace-road, Fulham, from the designs of the architects, Messrs. Giles & Gough, considerable attention has been given to the question of warming and ventilation. The Guardians of Fulham Union have in this respect set a praiseworthy example which deserves to be widely followed. To a committee of the Guardians was confided the task of selecting for the various sick wards, numbering about thirty, a stove which should best combine the two important requisites,—heating and ventilation. A limited number of leading manufacturers were therefore invited to compete, and after a strict test of the stoves sent in for the purpose, the choice fell upon the "War Office Ventilating Air Stove," manufactured by Messrs. Yates, Haywood, & Co.

The Calcutta Exhibition.—A Calcutta correspondent of the *Leeds Mercury* says that the English exhibitors make a very fine show in all departments, except art-work. The English exhibitors number nearly 600, and they occupy nearly 60,000 square feet of space. They are overpoweringly strong in metal-work and machinery, though some Indian firms, notably the Carnac Ironworks of Bombay, and the Baru Company of Howiath, near Calcutta, compete with the English exhibits. The Carnac Ironworks Company have erected an iron building in the grounds to illustrate what may be done with iron in architecture. The columns which support the roof are of iron, and are so arranged as to make each pair of columns a bay or doorway. In those parts of India where the ants make war on timber, and let the houses about the ears of the occupants periodically, this form of building should be acceptable and popular. This is a form of exhibit which the English producer may envy, because it is so perfectly adapted to the country that even native prejudices must go down before it. The English manufacturers, however, have generally worked in a groove which will bring them into contact with native prejudices. The native small farmers, for example, scoop water from a river or pool to a higher level, for irrigation purposes, by all manner of old-fashioned methods, yet here are pumps and other mechanical methods of drawing water. The natives thrash their own corn by driving a yoke of oxen over the sheaves as they lie upon the thrashing-floor; yet here are machines to be worked by steam, and turn out 100 qrs. a day if need be.

A Threatened Industry.—According to the Paris correspondent of the *Times*, one of the Parisian industries is threatened with abolition. All who have had occasion to traverse the streets towards midnight are familiar with the *chiffonniers*, armed with a lantern and a crooked stick, who rummage the rubbish heaps deposited at the edge of the kerb by the *concierges* the last thing at night. The adroitness with which, while only slightly stooping, they transfix any bit of rag or paper and drop it into the bag on their shoulder has always been a curious and picturesque sight. The Prefect of the Seine is about to change all this. From January 15 every *concierge* is required to supply himself with a box into which to empty the rubbish of the tenants, and to have it ready for the dustcarts on their morning rounds. Regard for the safety of the box will naturally prevent their doing this overnight, and even should one here and there do so the *chiffonnier* is forbidden to empty the box on the pavement to scrutinise its contents. The evident effect, if not object, of the regulation is to suppress the *chiffonnier's* occupation, and to give the dust contractor a monopoly of the rubbish. The existing system, however, according to the correspondent, has given perfect satisfaction, and nobody understands why it is to be disturbed.

An Arbitrator's Award.—At the last meeting of the Stapleton (Bristol) Local Board, the clerk (Mr. F. Rawle) read a report drawn up by Mr. J. H. Smith, C.E., Taunton, who was appointed arbitrator between the board and Mr. T. K. Yalland, the contractor for the sewage works, with reference to the value of the work done by the latter. The report stated that the workmanship throughout was of excellent quality, and the materials used were of the best description. The whole of the work showed careful construction and finish. Mr. Rawle next read the award of the referee, which he made clear to the board by making a comparison between Mr. Smith's figures and those put forward by the contractor. The original contract amount was 13,920*l.*, and Mr. Yalland claimed 503*l.* 4s. 7d. for extras, making at total of 14,423*l.* 4s. 7d. His deduction for works not carried out amounted to 2,150*l.* 14s. 10d., and consequently the sum claimed by him was 12,272*l.* 9s. 9d. Mr. Smith, the referee, had, however, assessed the value of extras at 1,341*l.* 8s. 5d., and this added to the contract price amounted to 15,261*l.* 8s. 5d. He estimated the sum to be deducted for works not carried out at 2,484*l.* 12s. 10d.; so that the amount to which Mr. Yalland was entitled was 12,776*l.* 15s. 7d.

The Arundel Hotel, Arundel-street, Strand.—We are asked to mention that the carrying out of the constructional ironwork of this building, which is of a somewhat heavy and difficult arrangement, has been entrusted to Mr. Archibald D. Dawnay, A.-M. Inst. C.E.

Well-earned Retirement.—The meeting of the Whitechapel District Board of Works on the 27th ult. was specially convened to consider the proposal that, upon Dr. Liddle, the medical officer of the district, resigning his office, an annual allowance, amounting to twenty-eight sixtieths of his present salary, or 325*l.*, be granted to him by the board, and that such allowance be charged to the funds of the board in the manner directed by the provisions of the 29th Vic., cap. 31, with regard to superannuations. Colonel Munro, in moving the adoption of this, referred to the long, honourable, and faithful service Dr. Liddle had rendered to the district. Mr. Nicholson, as a member of the board from 1855, heartily seconded the motion. The chairman (Mr. Gladding) said they were all conscious that the work done by Dr. Liddle had never been done perfunctorily, but was performed out of his deep concern for the public health and welfare. In addition, therefore, to the formal resolution now before them, he thought the board would join in a special resolution expressive of the warm feelings of honour and respect entertained for their old friend and coadjutor. The formal resolution of superannuation was unanimously adopted, and in addition the clerk was asked to draw up the special personal testimony suggested by the chairman.

A British Workmen's Hall and Home in Paris.—An institution of an exceptionally interesting character has, the correspondent of the *Standard* says, recently been opened in Paris,—namely, a British Workmen's Hall and Home. The idea owes its realisation to the zeal of Miss Ada Leigh, a lady ever foremost in all good English movements in Paris, but it was initiated by the working men themselves, and upon them must depend its future prosperity. A certain number employed in the building trade and other branches of industry appealed a few months ago to Miss Leigh to take up their cause. They had, they said, experienced the great need of clean, healthy, and comfortable lodgings, and of a place for social reunion. Their wages might be somewhat higher than in London, but money did not go so far, on account of the exceptional dearness in Paris of the common necessaries of life. They wanted no charity, but simply active sympathy, and a start to enable them to provide themselves with quarters resembling somewhat the homes they had left in England. Miss Leigh at once set to work, and found within a stone's-throw of the Arc de Triomphe,—a district where numbers of our countrymen are employed,—a house, being No. 12, Avenue MacMahon, with a large area, which serves for a dining and meeting hall. About 150*l.* have been subscribed. Some 250*l.* more are required to pay for the fitting up.

The Association of Public Sanitary Inspectors.—At the monthly meeting of this Association, to be held this Saturday, the 5th, at six p.m., in the Library of the Social Science Association, 1, Adam-street, Adelphi, the discussion on the papers, "The Position of the Sanitary Inspector," by Mr. Skipworth, of Caistor Union; and "Tenure of Office," by Mr. May, of Ramsgate, will be resumed, and in connexion therewith the following resolutions will be submitted:—

1. That the position of the Metropolitan, Urban, and Rural Inspectors [should] be assimilated.
2. That in order that the position of the sanitary inspectors be strengthened, it is expedient that the appointment of all officers should be approved of by the Government Sanitary Authority, and no officer dismissed by any local authority without final appeal to, and approval of, the said Government Sanitary Authority.

After which a paper will be read on "Sanitary Inspection of the Dwellings of the Poor," by Mr. T. Buckworth, Sanitary Inspector of St. Saviour's, Southwark.

The New Houses of Parliament, Cape Town.—The tender of the well-known firm of Gillow & Co., of 406, Oxford-street, has been accepted for furnishing the Houses of Parliament and State Offices at Cape Town, and Messrs. Gillow have received instructions from the Government to proceed with the work forthwith.

A Colossal Bronze Statue.—Mr. Birch, A.R.A., has nearly completed the cast of a colossal bronze statue to be erected, in a public park at Toronto, to the memory of the Hon. George Brown, a leading Liberal member of the Canadian Parliament, who was assassinated about two years ago by one of his workmen who had been dismissed for drunkenness.

New Premises, Cornhill.—Among recent metropolitan improvements we may note the re-building of some premises in Cornhill for Messrs. Street & Co., the well-known advertising agents. The operation of rebuilding was conducted in such a manner as to allow the tenants to continue their occupancy the whole of the time, the several floors being pinned up from below. When the front was rebuilt another top story was added, and the interior renewed floor by floor. While the works were proceeding, the old cross wall,—upon which the upper floors, with the clerks in them, were being temporarily supported—began to give way at the base, and occasioned considerable anxiety until a fresh purchase was gained for the supports, when the cross wall was rebuilt, and everything made good. The style of architecture adopted is Italian Classic, as that deemed best adapted for commercial frontages, but with rich ornamental carving in the lower parts in keeping with Renaissance work. The building was erected from the designs and under the personal superintendence of Mr. William C. Street, of 4, Westminster-chambers, the builders being Messrs. Dove Bros., of Islington.

The Mersey Tunnel.—The boring of the heading of the tunnel is now practically an accomplished fact, less than 120 yards remaining to be pierced, so that by the third week in the new year the subaqueous communication between Liverpool and Birkenhead will probably be effected. Further, it is hoped that by Christmas next the railway will be ready for traffic, and trains will be running beneath the river. The operations have been carried out under the personal superintendence of the engineers, Messrs. Brunlees & Fox, by Mr. John Waddell, of Edinburgh, the whole being under the control of Major Isaac. The advantages of the tunnel for other purposes than railway traffic cannot be estimated too highly. At present, the telegraph lines connecting Liverpool with Birkenhead run *viâ* Runcorn, while there is no intercourse by telephone. With the completion of the drainage heading, these inconveniences and wants will be remedied; the cables or wires will run direct under the Mersey.

A Presbyterian Church at San Remo was opened on the 20th ult. The building, which is Italian in style, is an oblong structure, measuring 60 ft. by 30 ft. The basement is of red granite. The walls above this are coated with terra cotta brought from Milan. On each side there are three large windows. The façade which faces south, is to be richly ornamented. The building will hold about 250 worshippers. Provision has been made for a campanile to be raised above the vestibule and gallery. The architect of the building is Signor Pio Soli. The site and the building together will cost 2,500*l.* or 2,600*l.*

Light in Basements.—In some of the extensive new buildings which are in course of erection in Chancery-lane, for purposes of business, extensive use is being made of Hayward's semi-prism lights in securing light to the basements, with results which are likely to be exceptionally successful in increasing the available space for business purposes. The importance of such an expedient, in regard to the commercial value of business premises in London, is, of course, very great, where space is so valuable, and light so difficult to come at. We are also told that these lights are largely used in the First Avenue Hotel, Holborn.

A Church Burned down.—The parish church of East Hanningfield, near Chelmsford, was destroyed by fire on Sunday afternoon. The fire broke out in the roof of the nave through (it is said) the overheating of a stove-pipe, and before the engine could arrive from Chelmsford it obtained a complete hold of the building. Nave, chancel, and tower, with their contents, including the bells, were destroyed, only the bare walls and arches being left standing. The church, an ancient one, was restored in 1844. The east window, which dates from the sixteenth century, was saved at great risk.

Wesleyan Methodist Chapel Building.—It is stated in the "Wesleyan Calendar" for 1884 that the sum of 367,218*l.*, principally on new erections and enlargements, has been expended on Wesleyan trust property during the past year; 266 other cases have been completed during the same period, at an outlay of 331,922*l.*; and 386 additional cases are now in course of completion, at an estimated cost of 292,174*l.*

Christ's Hospital.—Grave rumours reach us in regard to the sanitary condition of the Hertford branch of Christ's Hospital. A little boy has died recently at home from a disease apparently contracted in the school, and we are informed on good authority that this disease was typhoid fever. Our informant adds that a few weeks ago the school infirmary was full, and that two deaths had taken place in it. We trust these reports may prove to be unfounded, or at any rate exaggerated. More harm than good is generally done by the suppression of facts in a case like this. If typhoid or any analogous disease has broken out in the school, the fact should at once be made known, that parents may, if they think fit, remove their sons. A thorough sanitary investigation should at once be undertaken, for if our information proves corect, it is almost certain that water or drainage, or both, are in fault.—*The Lancet.*

Another Tramway Line in South London.—On the 21st ult. a new service of trams was commenced in South London. This was upon the route commencing at Camberwell-green, running through Coldharbour-lane, past Loughborough-junction, down Gresham-road, across Brixton-road, and, *viâ* Stockwell-road, to the Swan, Stockwell. The line is chiefly a single one. The line is in course of extension to Norwood, *viâ* Loughborough-junction, Milkwood-road, Half Moon, Dulwich, and Norwood-road. The cars exhibit some marked improvements, not the least of which is the abolition of the awkward and dangerous rise in the roof over the end canopies. The line is also to be extended, *viâ* the South Lambeth-road, from Stockwell to Vauxhall.

Monument in Sonning Church, Berks. A memorial of the late Vicar, the Rev. Canon Pearson, has been placed in Sonning Church. It consists of a full-length recumbent figure in white Carrara marble, representing the canon in the attitude of prayer. He is clad in surplice and stole, the head being supported by two angels, one carrying a harp, and the other the model of a church, emblematical of Canon Pearson's love for music and architecture. The figure is placed under the arch between the vestry and chancel. The cost of the memorial has been about 1,000*l.* The group has been carved out of one solid block of marble by Mr. Thrupp, of Marylebone-road, London, the architectural details having been arranged by Mr. Nutt, of Windsor.

Gray's Inn.—It is stated that, the present accommodation at Gray's Inn Library being insufficient, the Benchers have decided to have a new wing added to the present structure, the erection of which will shortly be proceeded with. Rumour also has it that the Benchers contemplate some improvements in the appearance of their buildings facing Gray's Inn-road, now in course of being considerably widened. We trust that there is good ground for this report, for the dingy, dreary, not to say ramshackle appearance of the long range of brick buildings will be more marked than ever when the new roadway is thrown open.

Institution of Civil Engineers of Ireland.—The Council of the Institution of Civil Engineers of Ireland have awarded the Institution medal to Mr. Richard B. Saunders, B.E., M.Inst. C.E.I., county surveyor to the King's County, for a paper entitled "Steam Traction on Common Roads," read by him before a general meeting of the Institution, held at Trinity College, Dublin, on the 7th March last.

Gosforth.—It is stated that the Earl of Wemyss (until lately better known as Lord Elcho) is going to spend 80,000*l.* in building a new house at Gosforth, the principal family seat in East Lothian. The "policies" of Gosforth extend to the Firth of Forth, and adjoin those of Archerfield, both being famous for their gardens.

The Christmas Dinner to the aged poor of Exeter, given under the auspices of Mr. Harry Hems, appears, from accounts received, to have gone off very successfully. By the willing aid of his workmen, one of the large workshops of his new premises was decorated and fitted up so as to make an admirable dining room for his sixty or seventy guests.

New Buildings, Brick-court, Temple.—To our notice of these buildings, described and illustrated in our last, we may add that the whole of the chimney-pieces and fenders, which are in polished Hopton Wood stone, and also the tile-hearths, were supplied by Messrs. J. W. Bird & Co., of Euston-road.

The Chair of Naval Architecture at Glasgow University.—At a meeting of this court held on the 21st ult., Mr. Francis Elgar, consulting naval architect and engineer in London, was unanimously elected to the John Elder Chair of Naval Architecture (including Marine Engineering) in the University.

Kilwinning.—At a meeting of the School Board, held on the 26th ult., Mr. James Stewart presiding, it was resolved to re-erect the spire at Fergus-hill School, which was blown down during the recent storm, and Mr. Armour, architect, was instructed to prepare a plan and specifications.

The Hospitals Association.—The inaugural meeting of this association will be held, by permission of the Lord Mayor, at the Mansion House on Friday, the 1st of February, at three o'clock. His lordship will preside. Further particulars will be shortly announced.

Quantity Surveying.—A special course of ten lectures on this subject will be given at the City of London College, White-street, Moorfields, by Mr. Henry Adams, M. Inst. C.E., on Wednesday evenings, commencing 16th January, 1884, at six p.m.

The Wards of the London Fever Hospital, described and illustrated by us a fortnight ago, have been supplied with blinds by Messrs. Guynan & Son, under the direction of the architect, Mr. Keith D. Young.

TENDERS.

For public swimming and other baths at Ladywell, for the Commissioners of Baths and Wash-houses for the parish of Lewisham. Messrs. Wilson, Son, & Aldwinckle, architects, 2, East India-avenue, Leadenhall-street, E.C. Quantities supplied:—

Priestley	£9,800	0	0
Martin	9,380	0	0
J. & C. Bowyer	9,215	0	0
Stafford	9,142	0	0
Marshall	9,086	0	0
Josolyne	9,081	0	0
Redman	9,043	0	0
Shurmur	8,900	0	0
J. Mowlem & Co.	8,883	0	0
Nightingale	8,868	0	0
Howell	8,650	0	0
Olley	8,411	0	0
Jerrard	8,400	0	0
Holloway	8,276	0	0
Foster & Dicksee	8,174	0	0
Hobbs	8,060	0	0
D. D. & A. Brown	8,025	0	0

For public swimming and other baths at Forest Hill, for the Commissioners of Baths and Wash-houses for the Parish of Lewisham. Messrs. Wilson, Son, & Aldwinckle, architects, 2, East India-avenue, Leadenhall-street, E.C. Quantities supplied:—

Priestley	£9,100	0	0
J. & C. Bowyer	8,935	0	0
Josolyne	8,611	0	0
Stafford	8,486	0	0
Hall, Beddall, & Co.	8,437	0	0
Marshall	8,338	0	0
Mowlem & Co.	8,270	0	0
Nightingale	8,223	0	0
Shurmur	8,090	0	0
Jerrard	8,033	0	0
Howell	8,031	0	0
Redman	7,894	0	0
Holloway	7,847	0	0
Olley	7,799	0	0
Hobbs	7,640	0	0
Jones	7,575	0	0
Foster & Dicksee	7,575	0	0
D. D. & A. Brown	7,177	0	0
Martin	7,018	0	0

For the erection of new parish rooms, Rotherhithe, in connexion with St. Bartholomew's Mission. Mr. W. Ravenscroft, architect, Reading:—

Smith & Barnes	£2,929	0	0
Rider & Son	2,888	0	0
Staines & Son	2,884	0	0
Searle	2,875	0	0
Bottrill, Reading	2,768	0	0
Lawrence & Son	2,61)	0	0

For supplying and fixing speaking-tubes and electrical bell communication at the new Parish Offices, Birmingham. Mr. W. H. Ward, architect:—

Radcliffe	£410	0	0 !
Vulcan Manufacturing Company	355	0	0
Smith & Sons	350	0	0
Morand	276	12	0
Sadler	210	0	0
E. Hill (accepted)	189	8	0
Shephard	70	0	0 !

For supplying and fixing seven iron doors at the new Parish Offices, Birmingham. Mr. W. H. Ward, architect:—

Tann & Co.	£185	0	0
Whitfield & Co.	147	0	0
Smith	147	0	0
Hipkins	135	0	0
Wood & Co.	127	15	0
Taunton	122	10	0
Clark, Bunnett, & Co.	120	0	0
Talbot	119	0	0
Cotterill & Co.	115	10	0
White	115	10	0
Lucas & Co.	115	10	0
G. Price (accepted)	105	0	0
Withers & Co.	101	10	0

For granite for the Finchley Local Board. Mr. George W. Brumell, surveyor:—

Name.	Description of Granite.	Per Yard Run Laid. 12 by 6 in. Granite Kerb. Straight.	Per Yard Run Laid. 12 by 6 in. Granite Kerb. Circular.	Per Yard super. laid. 7 by 5 Granite Channelling on 6 in. Concrete.
		s. d.	s. d.	s. d.
Geo. Dixon	Cornish.	7 9	9 3	14 6
Rowland Brothers	Newry.	4 9½	5 9½	18 6
Pennant Stone Company	Pennant stone (not laid).	5 0	7 6	—
James Dixon	Cornish.	5 5	5 10	17 6
McKenzie, Williams, & Co.	Cornish.	5 9	6 6	14 6
E. Tildesley	Cornish.	4 11	5 5	13 9
J. S. Gabriel,* Belvedere-road	Cornish.	4 2½	4 11½	11 3
Nowell & Robson	Cornish.	5 0	5 6	14 0
James Bloomfield	Cornish.	5 3	6 0	16 0
W. Lloyd	Ordinary Cornish.	4 7½	5 1½	11 3
	Extra dressed, do.	4 10½	5 4½	
	Norway.	5 1½	5 7½	
H. F. Brooks	Norway.	6 4½	7 0	13 0
	Cornish.	5 4½	6 0	
J. Mowlem	Cornish.	5 1	5 10	13 0
Wheeler & Hindle	Cornish.	4 7½	5 1½	12 9
	Norway.	5 0½	—	
P. Aspinall & Son	Cornish.	4 10½	5 4½	13 6
	Norway.	5 1½	5 7½	
J. Bell	Cornish.	5 4	6 7	13 6

* Accepted.

For new cricket pavilion to be erected in the Central Recreation Ground, Hastings. Mr. Arthur Wells, architect, 25, Havelock-road, Hastings:—

H. Friend, Hastings	£1,285 0 0
W. J. Rodda, Hastings	1,150 0 0
Taylor Bros., Hastings	1,120 0 0
Foster & Dicksee, Rugby	1,110 0 0
F. Cruttenden, Hastings	1,094 0 0
T. Wren, Hastings	1,089 0 0
A. Vidler, Hastings	1,062 0 0
J. Howell & Son, Hastings	990 0 0
W. Stace, Hastings	986 0 0
B. Foster, Hastings (accepted)	852 0 0

For supplying and fixing a lift at the new Parish Offices, Birmingham. Mr. W. H. Ward, architect:—

Barnes & Co.	£124 0 0!
Hassal & Singleton	120 0 0
Causer & Co.	110 10 0
Hodkinson & Clarke	81 0 0
Waygood & Co.	78 5 0
Thomas & Sons	56 10 0
Clark, Bunnett, & Co. (accepted)	45 0 0!

For rebuilding premises, Castle-street, Cambridge, for Mr. F. Bailey. Mr. Frank Waters, architect. Quantities supplied:—

A. Rye	£723 19 6
W. Saint	654 0 0
M. Christmas (accepted)	644 0 0

For the erection of a new building in Coventry-street' Haymarket. Mr. William Wimble, architect:—

Ashby Bros.	£12,859 0 0
Dove Bros.	12,745 0 0
Kirk & Randall	12,640 0 0
Ashby & Horner	12,596 0 0
Bangs & Co	12,420 0 0
Killby & Gayford	12,343 0 0
Scrivener & Co.	12,193 0 0
Brass	12,189 0 0
Lawrence & Sons	11,916 0 0
Baylis	11,914 0 0

For the whole of the constructional ironwork in the new Artisans' Dwellings at Petticoat-square, for the City Commissioners of Sewers. Colonel Haywood, City Engineer:—

Stanley, Hall, & Co. (accepted)	£6,050 0 0

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